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Research Article

Kosova Heteroptera'larının (Hemiptera) Eko-faunası ve *Pterotmetus staphyliniformis* (Schlling, 1829) Türünün Yeni Faunistik Kaydı Hakkında

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ÖZET: Bu çalışmada, eski Yugoslavya ve bilhassa Sırbistan'da Heteroptera (Hemiptera: Heteroptera) ile ilgili yapılmış çalışmalar gözden geçirilmiştir.

Bununla birlikte Kosova'dan toplanmış 750 Heteroptera örneğinden oluşan 40 türe ait eko-faunistik kayıtlar ve ayrıca her bir türün Paleartik ve Kosova Dağılımı da verilmiştir.

Bu türlerden Lygaeidae familyasına ait *Pterotmetus staphyliniformis*'in Kosova'dan ilk faunistik kayıt olduğu tesbit edilmiştir.

Bu bilgilere göre Kosova Heteroptera faunasının 30 familyaya ait 244 tür içerdiği liste olarak sunulmuştur.

ANAHTAR KELİMELER: Kosova, Heteroptera, eko-faunistik kayıtlar, *Pterotmetus staphyliniformis,* yeni kayıt.

About of the Fauna of Kosovo Heteroptera (Hemiptera) and New Faunistical Record of *Pterotmetus staphyliniformis* (Schlling, 1829)

ABSTRACT: In this study, studies on Heteroptera (Hemiptera) in the former Yugoslavia and especially in Serbia were reviewed.

In addition, eco-faunistic records of 40 species consisting of 750 Heteroptera specimens collected from Kosovo, as well as the Paleartic and Kosovo Distribution of each species are given.

Among these species, *Pterotmetus staphyliniformis*, belonging to the Lygaeidae family, was determined to be the first faunistic record from Kosovo. According to this information, the Kosovo Heteroptera fauna contains 244 species belonging to 30 families.

KEY WORDS: Kosovo, Heteroptera, eco-faunistic records, *Pterotmetus staphyliniformis,* new record.

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GİRİŞ

Heteropterler, tarım ürünlerine önemli zararlar veren böceklerin bir takımıdır. Takıma ait türlerin bir kısmı tarım ve kültür bitkilerinin çeşitli gelişme evrelerinde bitki öz suyunu emerek beslenmeleri sebebiyle meyvelerde şekil ve tat bozukluklarına, tohumlarda kalite düşüklüğüne ve çimlenme yeteneğinin azalmasına ya da tamamen tahrip olmasına yol açarlar. Ayrıca ekto-parazit olarak yaşayan bazı türleri omurgalı hayvanlara ve insanlara hastalık taşıyarak sağlık problemlerine sebep olurlar.

Bununla beraber bazı heteropter'ler ise böcek predatörleri olup tarım zararlısı böceklerle beslendikleri için faydalıdırlar.

Heteropter'lerin karada, su yüzeyinde, su içerisinde ve hatta taban çamurları içerinde yaşayan türleri vardır. Gerek tür sayısının çokluğu, gerek yeryüzünde geniş bir yayılma alanına sahip olması ve gerekse pek çok zararlı türü bünyesinde toplaması nedeniyle Heteroptera takımının böcek grupları içinde gözardı edilemiyecek bir yeri vardır. Bu durum göz önüne alınırsa, gruba ait türlerin Kosova'daki yayılışlarının tespit edilmesi, konukçularının belirlenmesi, habitat ve fenolojilerinin gözlemlenmesi gerektiği ortaya çıkmaktadır.

Palearktik bölgede heteropterlerin 1073 cinse ait 7345 türü ile 210 alt türü bilinmektedir [16].

Kosova devlet sınırlar içerisinde şimdiye kadar Heteroptera tür sayısı hakkında yapılan bir çalışma yoktur ve resmi bir rakam belirlenmemiş, detaylı bir çalışma da yapılmamıştır. Kosova için mevcut olan bilgiler ve tüm resmi kaynaklar eski Yugoslavya devleti zamanında yapılmış çalışma ve kayıtlara dayalı olup, fauna hakkında yeterli bilgi de bulunmamaktadır.

Eski Yugoslavya'da Heteroptera takımına ait fauna çalışmaları yaklaşık olarak 190 yıllık bir geçmişe sahiptir. *Apodiphus amygdali* (Germar 1817) Hırvatistan'dan verilmiş eski bir kayıttır [1]. Eski Sırbistan'da Heteroptera faunası Franz Fieber ile başlayan çalışmalarda (1861) karşımıza çıkmakta olup bu çalışmalarda bilim için 5 yeni tür tanımlanmış; ayrıca eski Sırbistan-Karadağ için de 8 yeni tür kaydı verilmiştir.

Fieber'in tanımladığı bu 5 tür; *Catoplatus crassipes* (Fieber 1861), *Kalama lugubris* (Fieber 1861), *Tingis elongata* (Fieber 1861), *Macropternella inermis* (Fieber 1861) ve *Crocistethus waltlianus* (Fieber 1861)'dir [1].

Daha sonra Geza Horvath ile bu çalışmalar 30 yıl devam etmiştir. Horvath tarafından ilk kez sistematik olarak eski Sırbistan coğrafyasının Heteroptera faunası araştırması yapılmıştır ve bu çalışmada 334 tür verilmiştir (Horvath 1903) [1].

Eski Yugoslavya'yı kapsayan Nicholas Kormilev'in çalışmalar, 1927-1945 yıllarında yapılmış ve II. Dünya savaşı sonun kadar devam etmiştir. Kormilev'in çalışmaları daha çok bugünki Makedonya sınırları içinde yer alan, Üsküp ve Tetovayı (Kalkandelen) da içine alan çalışmalar şeklindedir. Kormilev, eski Sırbistan ve eski Yugoslavya Heteroptera faunası çalışmalarında 450–900 tür tespit etmiştir. Heteroptera araştırmaları II. Dünya savaşı ve sonrası şartlar nedeniyle bundan sonra 1960'lara kadar bir durgunluk dönemine girmiştir [1].

1960 yıllarda yeniden başlayan çalışmalar, Gradojeviç (1963) Karadağ ve Sırbistan iç bölgesini, Jankoviç (1963, 1964, 1966, 1972) "Jugoslavije od Slovenije do Makedonije" çalışmalarını yapmıştır, Jankoviç bu çalışmalarda eski Yugoslavya'ya ait 165 farklı böcek türünden bahseder. [1].

Protiç ile başlayan halen devam eden ve son 30 yılı kapsayan sistematik ve taksonomik çalışmalar ile de eski Sırbistan Heteroptera faunası için bilinen tür sayısının iki katına çıktığını [1] görmekteyiz.

Bu bilgiler ışığında ve en son araştırmalar dikkate alındığında, eski Sırbistan'da (Kosova Sırbistana bağlı iken) 33 familya'ya ait 855 Heteroptera türünün bulunduğu görülmektedir [1, 11].

Protic (2000)'in çalışmasına göre (Çizelge 1) Kosova'ya komşu Balkan ülkelerinde ve Kosova'da verdiğimiz bu çalışma öncesindeki kayıtlara ve literatüre dayalı Heteroptera tür sayısı ve bu ülkelerin yüzölçümleri şöyledir.

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Çizelge 1. Komşu Balkan ülkelerinde ve Kosova'da Heteroptera tür sayısı (Protic, 2000)

Kosova'ya Komşu Ülkeler	Yüz ölçümü (km2)	Tür Sayısı
Arnavutluk	28.748	505
Bosna-Hersek	51.129	657
Bulgaristan	110.912	1020
Hırvatistan	56.538	858
Yunanistan	131.957	647
Makedonya	25.713	851
Slovenya	20.251	691
Eski Yogoslavya (Kosova dahil)	102.173	970
Eski Sırbistan (Kosova dahil)	88.361	855
Karadağ	13.812	371

Çizelge 1.'de yer alan Eski Yugoslavya ülkelerinin tür sayısını karşılaştırdığımız zaman Hırvatistan faunası tür sayısı bakımından oldukça zengin görülmektedir. Bu zenginlik, Hırvatistan faunasının yabancı bilim adamları için tarih öncesinden beri cazip olmasından kaynaklanmıştır. Kısaca ifade edecek olursak eski Sırbistan Heteroptera faunası çalışmaları 160 yıllık geçmişe sahipken, Hırvatistan fauna çalışmaları 190 yıllık geçmişi ile de daha öne çıkmaktadır [1]. Slovenya Heteroptera faunasına bakıldığında ise son 25-30 yıl içinde önemli çalışmaların Gogala ve Gogala (55-57) tarafından yapıldığı görülmektedir. Bosna Hersek faunası ise Apfelbeck'le 1891 yılında kaydedilen birkaç tür ile başlamış ve oldukça ilerlemiştir[1]. Makedonya faunası nispeten çok iyi araştırılmıştır, burada etkin rol oynayan Kormilev'dir [1].

Kosova Heteroptera faunası hakkında belli başlı bir kronolojiden bahsedilememektedir, hatta konu ile ilgili hiç bir literatür çalışması yapılmamış olup taksonomi ve sistematik konularında bilimsel çalışmalar nerede ise hiç yoktur.

Kosova'ya ait konu hakkında bilgiler eski Sırbistan kaynaklarında, Kosova'nın eski Yugoslavya'ya ve eski Sırbistan'a bağlı olduğu zamanlarda çalışma yapan bilim adamlarının çalışmalarında yer alan kısmi bilgi ve kayıtlar ile bu bilim adamlarının yüksek lisans ve doktora öğrencilerinin eski Yugoslavya ve eski Sırbistan faunası üzerine yapmış olduğu çalışmalardan ibarettir.

Kosova Heteropter çalışmalarının öncülerinden sayılabilen (Schumacher, 1916)'in "Beiträge zur Kenntnis der Hemipterenfauna Mazedoniens" adlı çalışmasında şu anki Kosova milli sınırları içinde bulunan Kaçanik bölgesinden 8 familya'ya ait 19 türün varlığından bahsetmektedir [28]. Yine O yıllarda Geza Horvath'la devam eden çalışmalarda "Albania Hemiptera Faunaja"(Arnavutluk Heteroptera faunası) ve "Szerbia Hemiptera" (Sırbistan Heteropterleri) ile ilgili çalışmalarında Kosova sınırları içinde yer alan bölgeler için 7 familyaya ait 9 türden bahsetmektedir [31].

Nikola Kormilev "Beitrag zur Kenntnis der Hemiptera Heteroptera Jugoslavien"(1928 -1929) ve Beitrag zur Kenntnis der Verbreitung Jugoslavischer Hemiptera, Heteroptera Süd Serbien und Serbien (1936) gibi çalışmalarında, bugünkü Kosova sınırlarında yer alan coğrafya faunası için 11 familyaya ait 32 türden bahsetmiştir [10, 12, 15, 17, 32].

Eski Yugoslavya'yı en geniş kapsamlı çalışan ve en önemlisi Kosova faunasına da ışık tutan Csiki E., 1940 "Hemipteren Csiki Ernöallatanikutatasai Albaniaban Explorationes zoologicaeab" adlı çalışmasında, Kosovaya ait 21 familyaya ait 152 heteroptera türünden bahsetmektedir [6,

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12, 29]. Mancini, C., "Contributo alla conoscenza delgi Emitteri Eterotteri dell Albania" başlıklı çalışmasında 4 familyaya ait 5 türden bahsetmiştir. [34]. Wagner. E., 1975, geniş kapsamlı Balkan çalışmalarında "Vier Neue Miriden (Insecta, Hemiptera, Heteroptera) Aus Dem Mittelmeergebiete" adlı literatürde Kosova'ya ait endemik türlerden, *Myrmecophyes (Myrmecophyes) latus* Wagner 1975, *Sciocoris (Sciocoris) pentheri* Wagner 1953 bahsetmiştir [1]. Pericart, J., "Hemipteres collectes par Margheritaet Giuseppe Osella dans leb asin Mediterraneen oriental et en Anatolie Berytidae" adlı çalışmasında 1 familyaya at 2 türden bahsetmektedir [1]. Kosova Heteropterlerinden bahseden en son çalışmalar Liljana Protiç'in çalışmalarıdır. Protiç 1988-2011 yıllarında çalışmalarını devam ettirmiştir.

"Catalogue of the Heteroptera Fauna of Yugoslav Countries (I) 1998" ve "Catalogue of the Heteroptera Fauna of the Yugoslav Countries (II) 2001", "Heteroptera 2011" gibi çalışmalarında Kosova faunasında yer alan Heteroptera türlerinden de bahsetmekte ve 3 familyaya ait 4 türü listelemektedir[32, 33, 34].

Kosova coğrafi konumu sebebi ile oldukça zengin flora ve faunaya sahip olup bu zenginlik çok eski yıllardan beri yabancı ve yerli araştırmacıların ilgisini çekmiştir.

Kosova Heteropterleri ile doğrudan veya dolaylı olarak ilgili olan yukarıdaki kaynaklar incelendiğinde çalışma alanı olan Kosova Cumhuriyeti sınırları içerisinde şimdiye kadar kapsamlı bir çalışma yapılmamış olduğu görülecektir.

Bu nedenle bu çalışma ile Kosova heteroptera türlerinin literatür kayıtlarına göre mevcut durumlarının ele alınarak gözden geçirilmesi, ayrıca arazi çalışmaları ile toplanan örneklerin teşhisi ile Heteroptera faunasına ait yeni kayıt bilgileri ışığında Kosova Heteroptera Faunası ortaya konulması amaçlanmıştır.

Özetle; Protiç (1998 ve 2001)'in bildirdiğine ve yaptığımız literatür ve katalog incelemelerine göre, verdiğimiz bu çalışma yapılana dek Kosova'dan (Yüzölçümü 10.908 km²) toplam 29 familyaya ait 222 tür kaydı verilmiş [10, 4, 5, 26], daha sonra Baymak ve Kıyak (58,59,60) tarafından bu sayıya 19 tür daha ilave edilerek sayı 241'e çıkmış, bu çalışmada verilen 1 yeni kayıt, ayrıca Dioli ve van der Heyden(61)'in 2 yeni kayıt vermesi ile tür sayısı 244 olmuştur.

MATERYAL VE METOT

2011-2012 Haziran-Eylül ayları Kosova'da (Harita 1) arazi çalışmaları yapılmış, çalışma alanından Heteroptera alttakımına ait yarı sucul ve karasal toplam 750 Heteroptera örneği toplanarak müze materyali haline getirilip teşhis edilmiştir.

Çalışma Alanının Coğrafik Durumu

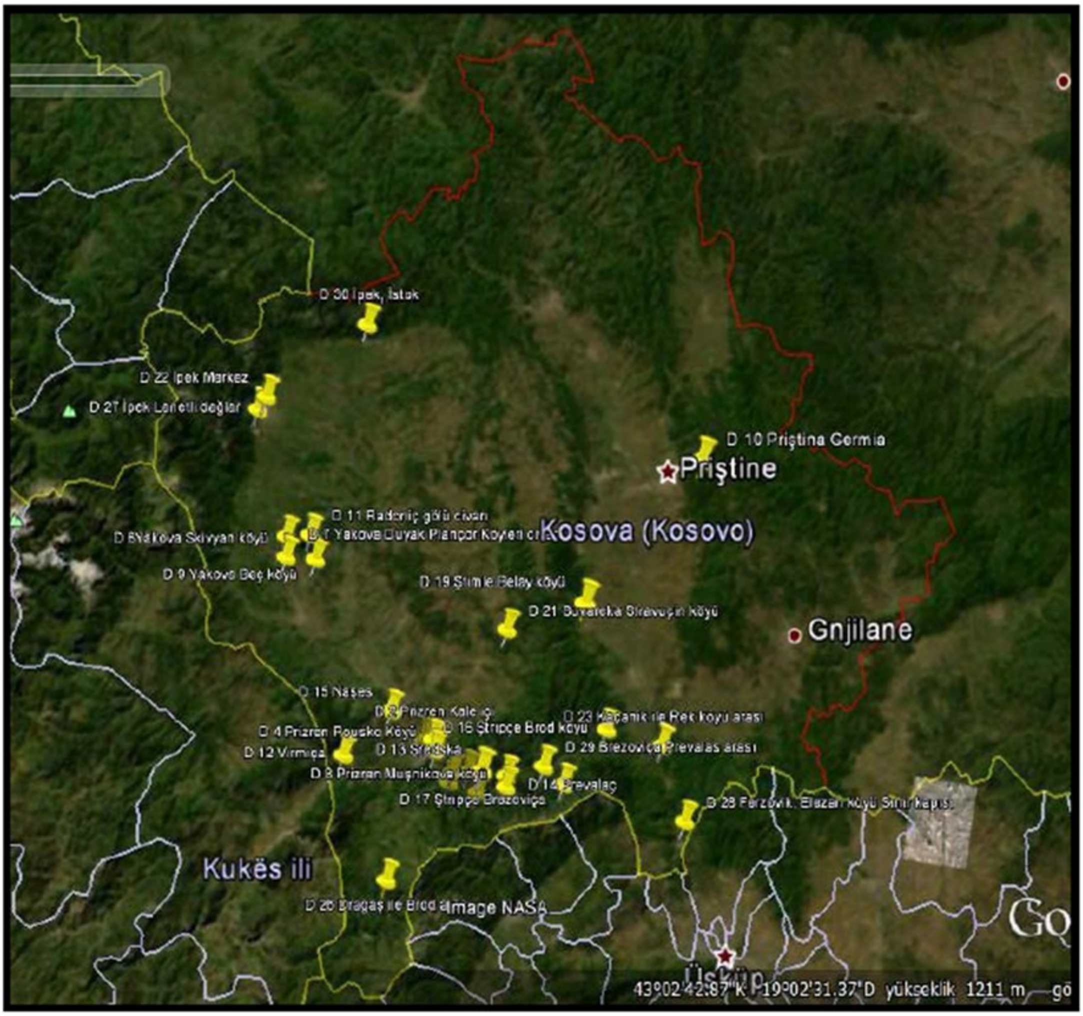
Balkanlar'da Sırbistan, Karadağ, Makedonya Cumhuriyeti ve Arnavutluk devletlerine sınırı olan, 1999 ile 2008 yılları arasında Birleşmiş Miletler idaresinde bir bölge olan Kosova 17 Şubat 2008 tarihinde tek taraflı olarak bağımsızlığını ilan etti. Kosova 10 887 km² alana, 2 milyon civarında bir nüfusa sahiptir.

Kuzey batısında Karadağ, kuzey doğusunda Sırbistan, güneyinde Makedonya ve güney batısında Arnavutluk bulunmaktadır. En büyük yerleşim merkezi başkent Priştine'dir.

Kosova ülkesinin milli sınırlar içerisinde bulunan çalışma alanı 42* 45' 31" – 42* 39' 30" kuzey enlemleri ile 20* 48' 18" – 20* 43' 46" doğu boylamları arasında bulunmaktadır.

Kosova'nın topraklarının büyük bir kısmı dağlık arazidir. Kosova dağları çok yüksek ve dik yamaçlara sahiptir. Şar Dağları toplam 1600 km² alana sahiptir. Şar Dağları'nın % 56,25'i Makedonya sınırları içinde % 43,12'si Kosova sınırları içinde % 0.63'ü de Arnavutluk sınırları içindedir. 2000 m. üstünde bulunan çok sayıda doruk noktası bulunmaktadır. Büyük Türk tepesi, 2747 m., yüksekliğiyle Şar Dağları'nın en yüksek tepesidir. Şar Dağları'nda 39 dağ gölü bulunmaktadır. Ayrıca 100 büyük kaynak ve 25 civarında büyük akarsu da bu dağ silislerinde bulunmaktadır. Şar Dağı'nın Kosova bölgesindeki kısım, eski Yugoslavya devleti zamanında milli park ilan edilmiştir. Kosova'nın % 36,5'unu havza araziler kaplamaktadır. Bu havzalar Lab, Kriva, Reka, İbar ve üst Marova'nın nehir vadileri kuşatmaktadır.

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Harita 1. Kosova haritası. Örnek toplaması yapılan alanlar.

Dağlık araziler ise yüzeyin % 37'sini oluşturur. Arnavutluk'tan gelip, Karadağ içlerine kadar ilerleyen Bjeshket ve Nemuna (Prokletiye) dağları (2656 m), kuzeyde Sırbistan'dan uzanan Kopaonik dağları (2000 m) bulunur. Ayrıca güneydoğu kesiminde yine sıra sıra ilerleyen Dinar Alpleri bulunmaktadır.

Kosova'nın iç kesimlerinde deniz seviyesinden yükseklik ortalama 500-600 m civarındadır.

Kosova'nın en büyük nehirleri İbar, Beyaz Drina, Lepenci, Sitnitza ve Binça Morava'dır. Bunlardan Beyaz Drina Adriyatik denizine, İbar ve Binça Morava Karadenize, Lepenci'de Ege denizine dökülmektedir. Gozivoda, Batllava Obiliç ve Badovc yapay gölleri bulunur [11, 17].

Çalışma Alanının Flora ve Faunası

Kosova flora ve fauna açısından oldukça zengin bir ülkedir. Endemik tür çeşitliliği ile Bjeshket ve Nemuna (Prokletiye) dağı ve Şar Dağları'nda yüksektir. Buradaki biyoçeşitlilik zenginliğinin nedeni tüm Balkan florasının % 20'sine sahip olmasından kaynaklanmaktadır.. Şar Dağları ve Bjeshket ve Nemuna (Prokletiye) dağları 1500 bitki türüne ev sahipliği yapmanın yanında % 10 endemik tür içermektedir. Ayrıca her ikisi de milli park statüsündedir. Bunun yanında Koritnik dağı ile Germia dağlarıda çok sayıda türe sahiptir. Germia dağı 5'i endemik 606 türe ev sahipliği yapmaktadır.

Kosova'da genellikle ormanlık, dağlık ya da vadilerde flora ve fauna elemanları

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bulunmaktadır. Yaklaşık olarak 200 Endemik tür ve alt türün varlığı bilinmektedir. Buradaki 19 endemik bitki türü önem taşımaktadır. Bunlardan bazıları, *Achillea alexsandri-regis, Aristolochia merxmueelera, Bornmuellera dieckii, Sar cranberrry, Cornus scardicus, Cynoglossum krasniqi, Potentilla doerferi, Sedum flexuosum, Wulfenia blecicii, Wulfenia carinthiaca* 'dır. *Pinus* cinsinden *Pinus puece* endemiktir. Orman vejetasyon olarak *Quercus sp., Abies sp., Corylus* sp., *Fagus* sp., *Picea* sp., *Pınus* sp., bol bulunur. Ayrıca *Iberis taurica*, *Aethionerna armenum, Astragalus* sp., *Hesperis bicuspidata*, *Ranunculus argyreus* gibi otsulara sık rastlanır. Şar Dağları, Avrupa'nın en bereketli dağ bölgelerinden biridir. Vaşak, yabani kedi, sarı ve beyaz su samuru, ayı ve dağ keçisi, Şar dağların'da yaşayan memeli hayvanların başlıcalarıdır [17].

Kosova'da en son verilere göre 1800 kayıtlı bitki türü vardır. Ancak araştırmalar devam etmektedir ve bu sayının 2500 türe ulaşması umulmaktadır. Omurgalılar 210 türle, Kelebeklerler 200 türle temsil edilmektedir. Kosova'da Bjeshket ve

Çizelge 2. Örneklerin toplandığı lokaliteler

Lok	Lokalite adı	Coğrafik Koordinatlar	Rakım aralığı (m)
D1	Prizren Lokviça Köyü	42°10'6.55"K 20°47'46.93"E	700-900
D2	Prizren Kale İçi	42°12'33.40"K 20°44'42.88"E	450-550
D3	Prizren Planyan köyü	42°10'27.17"K 20°49'39.90"E	650-850
D4	Prizren Pousko Köyü	42°11'39.81"K 20°45'10.67"E	550-750
D5	Prizren Merkez	42°12'36.38"K 20°44'7.49"E	400-420
D6	Yakova Skivyan Köyü	42°25'52.94"K 20°22'54.77"E	400-440
D7	Yakova Duyak Köyü	42°27'37.90"K 20°22'34.82"E	420-480
D8	Prizren Muşnikova	42°10'36.03"K 20°54'31.30"E	950-1000
D9	Yakova Beç Köyü	42°26'6.72"K 20°26'36.57"E	400-450
D10	Priştina Gırmia	42°40'3.71"K 21°13'38.45"E	700-1000
D11	Yakova Radoniç Gölü	42°28'7.56"K 20°25'32.97"E	450-500
D12	Prizren Vırmiça Köyü	42° 9'55.27"K 20°33'45.99"E	270-320
D13	Prizren Sredska Köyü	42°10'30.41"K 20°51'21.35"E	750-850
D14	Prizren Prevalaç dağı	42° 9'42.83"K 20°54'42.78"E	1200-1500
D15	Prizren Naşes Köyü	42°14'23.81"K 20°38'55.07"E	290-320
D16	Ştıpçe Brod Köyü	42°15'57.66"K 21° 6'21.32"E	650-750
D17	Ştıpçe Brezoviça	42°10'47.84"K 21° 1'52.54"E	1650-1850
D18	Prizren Kara Potok	42°12'22.22"K 20°45'21.14"E	400-500
D19	Ştimle Belay Köyü	42°26'14.09"K 21° 1'23.88"E	600-650
D20	Prizren Merkez	42°12'28.35"K 20°43'34.99"E	380-420
D21	Suvareka Stravuçin	42°22'58.99"K 20°52'2.13"E	600-650
D22	İpek Merkez	42°39'12.56"K 20°17'26.45"E	500-550
D23	Kaçanik Rek Köyü	42°15'24.12"K 21°13'37.42"E	500-600
D24	Prizren Gornje	42° 8'50.30"K 20°51'16.01"E	800-1100
D25	PRİZREN Lokviça ile	42° 9'13.80"K 20°47'28.22"E	900-1200
D26	Dragaş Brod ile	42° 0'2.03"K 20°41'28.36"E	1000-15000
D27	İpek Lanetli Dağlar	42°38'0.48"K 20°16'37.14"E	600-1000
D28	Ferizovik Elezan	42° 9'12.35"K 21°17'49.49"E	380-450
D29	Ştıpçe Brezoviça İle	42°11'59.50"K 20°59'5.84"E	900-1250
D30	İstok Merkez	42°46'48.63"K 20°28'50.63"E	450-650

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Nemuna (Prokletiye) dağları ile Şar dağlarının yanı sıra nehir vadiler, boğazlar ve diğer yerlerdeki bazı alanlarda, farklı jeolojik dönemlere, özellikle Tersiyer döneme ait termofilik flora çeşidi kalmıştır [17].

Çalışma Alanının İklimi

Kosova'nın iklimi karasal iklimdir. Kışları soğuk ve kar yağışlıdır, yazları sıcak ve kurak geçer. Ayrıca Kosova'nın güney batısının tamamı ve kuzey batısının 1/3'lük kısmı Akdeniz iklimine) sahiptir. Kosova'da en düşük sıcaklıklar Ocak ayında görülür. En yüksek sıcaklıklar ise Temmuz ayında görülür. Ortalama sıcaklıklar en yüksek 40-42 C civarında, en düşük sıcaklıklar ise -15 ile -20 C'dir.

Örnek toplama Lokaliteleri

Araştırma ve toplama yapılan lokalitler, kordinatları ve rakım aralığı Çizelge 2. de verilmiştir.

Örneklerin Toplanması ve Preparasyonu

Kosova'da karasal ve yarı sucul Heteroptera türlerine ait örnekleri toplamak üzere kültür alanı, sucul alan, orman ve step vejetasyonlarında çalışılmış, ayrıca bitkisel döküntülerin altları, toprak üzeri, taş altları, akarsu kenarları ve dip çamurları da taranmış, elde edilen sonuçların değerlendirilmesiyle türlerin tercih ettikleri habitatlar belirlenmiştir. Orman vejetasyonu ile temsil edilen alanlarda örnekler otsu bitkiler ve çalılar üzerinden hem atrap kulanılarak hem de el ve pens yardımıyla, ağaç kabuklarının ve taşların altı ile toprak üzeri de taranmıştır.

Step vejetasyonunun görüldüğü yerlerde ise örnekler atrap ve el yardımıyla toplanmıştır. Alanda ayrıca sucul vejetasyona da rastlamak mümkündür.

Dere, göl kıyıları ile pınar sularının oluşturduğu birikintilerden ve bu alanların kenarındaki otsu formasyondan, ayrıca tarla, bağ, şehir merkezi, park ve bahçeler ya da yol kenarlarındaki çeşme oluklarından ve bunların oluşturduğu birikintilerden sucul böcekler su atrapları ve pens yardımıyla toplanmıştır.

Yakalanan örnekler, içinde %70'lik alkol bulunan öldürme şişelerine ve etil asetatlı öldürme kavonozlarına alındıktan sonra içerisinde %70'lik etil alkol bulunan taşıma kavonozlarına aktarılmıştır.

Örneklere ait habitat, toplama tarihi, örneğin toplandığı yer vb. bilgiler arazi defterine ve kavonozların üzerine not edilmiştir.

Kavanozlar hava yoluyla Türkiye'ye getirilmiş Gazi Üniversitesi Fen Fakültesi Biyoloji Bölümü Zooloji Müzesinde preparasyon çalışmaları yapılmıştır. Laboratuvar ortamına alınan örnekler fırça ile temizlenmiş, bu esnada kuruyan örnekler yumuşatma kutularında bekletilmiştir. Yumuşatılan örnekler dorsoventral olarak özel böcek iğneleri ile iğnelendikten veya kartonlara yapıştırıldıktan sonra tasnif kutularına aktarılmıştır.

Tasnif kutularında saklanan örneklerin müze örneği zararlıları tarafından hasara maruz kalmaması için koleksiyon kutularına koruyucu olarak güve kovucu konulmuştur.

Örneklerin teşhislerinin yapılmasında konu ile ilgili katalog veya makalelerden yararlanılmıştır. [1, 3, 5, 9, 10, 13, 15, 43, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53]

Fenoloji başlığı altında, türe ait örneklerin toplama tarihleri dikkate alınarak ilgili bilgiler literatürden [8, 10, 12, 13, 14, 16, 18, 22, 34] ve arazi çalışmaları sonucunda elde edilen verilerden yararlanılarak türün fenolojisi ortaya konulmaya çalışılmıştır.

Ekoloji başlığı altında, türün habitatı ile ilgili bilgiler literatürler'den [13,16, 18, 22] yararlanılarak ortaya konulmaya çalışılmıştır.

Arazi çalışmaları esnasında toplama metodu olarak genelikle atrapla süpürme metodu uygulandığından türlere ait örneklerin hangi bitki üzerinden toplandığı tespit edilememiştir.

Kosova'da yayılışı ve Palearktik yayılışı başlıkları altında; türün Kosova'da ve dünyadaki yayılışlarından bahseden literatürler'den, makalelerden ve kataloglardan [1-7, 12-14, 18, 27- 34, 37-41] yararlanılmıştır.

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Bu çalışmada yer alan türlerin palearktik bölge yayılışının verilmesinde kullanılan ülke kısaltmaları (bkz. Aukema ve Rieger, 1995) aşağıda verilmiştir (37):

AB Azerbaycan
AE Arap Emirlikleri
AF Afganistan
AG Cezayir
AK Kazakistan, Asia b.
AL Arnavutluk
AN Andora
AR Ermenistan
AT Türkiye, Asya b
AU Avusturya
AZ Azores
BA Bahreyn
KU Kuveyt
LA Letonya
LB Libya
LE Lübnan
LS Lihtenştayn
LT Litvanya
LU Luksemburg
MA Malta
MC Makedonya
MD Moldova
MG Moğolistan
MO Fas
BE Belçika
BH Bosna Hersek
BU Bulgaristan
BY Beyaz Rusya
CE CH, Merkez bölgesi
CH Çin
CI Kanarya adaları
CR Hırvatistan
CT RU, Merkez Avrupa b.
CY Kıbrıs
CZ Çek Cumhuriyeti
DE Danimarka
EG Mısır
EK Kazakistan Avrupa b.
EN Estonya
ES Rusya Doğu Sibirya
ET Türkiye Avrupa bölgesi
FA Faroe adaları
FE RU, Uzakdoğu bölgesi
FI Finlandiya
FR Fransa (Korsika ve Monako)
GB Büyük Britanya (Manş adaları)
GE Almanya
GG Gürcistan
GR Yunanistan
HU Macaristan
IC İzlanda
IR İrlanda
IS İsrail
IT İtalya (Sardinya Sicilya ve San M.)
JA Japan (Bonin ve Ryukyu adaları)
MR Madeira
NE CH Kuzeydoğu b
NL Hollanda
NR Norveç
NT RU Kuzey Avrupa bölgesi
NT RU Kuzeybatı bölgesi
OM Umman
PL Polonya
PO Portekiz
QA Katar
RO Romanya
RU Rusya
SA Suudi Arabistan
SE CH Güneydoğu bölgesi (Hong Kong)
SI EG Sina yarımadası
SK Slovakya
SL Slovenya
SP İspanya (Cebelitarık adası)
ST RU Güney Avrupa bölgesi
SW İsveç
SW CH Güneybatı
SY Suriye
SZ İsviçre
TA Tayvan
TD Tacikistan
TM Türkmenistan
TU Tunus
UK Ukrayna
UZ Özbekistan
WP CH Batı Yaylası
WS RU Batı Sibirya
JO Ürdün
KI Kırgizistan
KO Korea (Kuzey ve Güney)
EU Avrupa
NA Kuzey Afrika
AS Asia
EL Extralimital
YE Yemen (Sokotra)
YU Yugoslavia (Sirbistan Karadağ)

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BULGULAR

Bu çalışmada Kosova'da yaşayan Heteroptera alttakımına ait yarı sucul ve karasal toplam 40 tür yer almaktadır. Bunlar 14 familyaya ait 33 cinsin türleri olup çalışma 750 Heteroptera örneğine dayalı olarak gerçekleşmiştir.

Heteroptera

Pleidae Fieber, 1851

***Plea* Leach, 1817**

***Plea minutissima* (Leach, 1817)**

Fenolojisi:

Bu çalışmada türe ait ergin örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait ergin örneklere Haziran-Eylül ayları arasında rastlandığı bildirilmiştir [42].

Ekolojisi:

Genellikle derin sular, balık havuzları, kil çukurları, menderesler gibi su kıyısı bölgelerinde bulunurlar [42].

İncelenen materyal: 1♂, Lok. D10, 22.07.2012;

Kosova'daki yayılışı: (Harita.2)

Priştina.

Palearktik yayılışı:

EU: AL AN AU BE BH BU BY CR CZ DE EK EN? ET FR GB GE GR HU IR IT LA LS LU MA MC MD NL PL PO RO RU (CT ST) SK SL SP SV SZ UK YU. NA: AG EG MO TU. AS: AB AK AR AT CY GG IQ IS RU (WS) TD UZ.

Gerridae Leach, 1815

***Gerris* Fabricius, 1794**

***Gerris thoracicus* (Schummel, 1832)**

Fenolojisi:

Bu çalışmada türe ait örneklere Temmuz ayında rastlanmış ve toplanmıştır. Türe ait ergin bireylere Haziran-Eylül ayları arasında rastlanmıştır [42].

Ekolojisi:

Akarsu göletler, balık havuzları park bahçe havuzları, yol kenarı sulama kanalları gibi küçük habitatlarda killi topraklarda daha çok grup olarak yaşarlar. Genelikle sucul bitkiler ve su mercimeği gibi batık su bitkilerinde yaygın olarak bulunurlar. Genelikle ph'sı 7 olan sularda bulunurlar [42].

İncelenen materyal:

8♀♀, 3♂♂, Lok. D6, 23.07.2012; 2♀♀, 2♂♂, Lok. D26, 30.07.2012;

Kosova'daki yayılışı: (Harita.3)

Dragaş, Yakova.

Palearktik yayılışı:

EU: AU BE BU CR CZ DE EN ET FI FR GB GE GR HU IR IT LA LS LT LU MA MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK "YU". NA: AG CI MO MR TU. AS: AB AF AK AR AT CY GG IN IQ IS LE SY TD TM UZ. EL: Oriental bölge (N Hindistan, Kaşmir).

Nabidae A. Costa, 1853

***Himacerus* Wolff, 1811**

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Fenolojisi:
Bu çalışmada türe ait örneğe Haziran ayında rastlanmış ve toplanmıştır. Türe ait örneklere Mayıs-Eylül ayları arasında rastlanmıştır [34].
Ekolojisi:
Genelikle sık toprak üstü vejetasyon ve çalılıklar üzerinde yaşadığı bildirilmektedir [47].
İncelenen materyal:
1♂, Lok. D24, 26.06.2012
Kosova'daki yayılışı: (Harita.4)
Prizren.
Palaerktrik yayılışı:
EU: AL AN AU BE BH BU BY CR CZ DE ET FR GB GE GR HU IR IT LS LU MC MD NL NR PL PO RO RU (CT ST) SK SL SP SV SZ UK YU. NA: AG CI MO TU. AS: AB AR AT CY GG IN LE SY.

Reduviidae Latreille, 1807

***Phymata* Latreille, 1802**

***Phymata crassipes* (Fabricius, 1775)**
Fenolojisi:
Bu çalışmada türe ait ergin örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait ergin bireylerin aktif dönemleri Mayıs-Temmuz ayları arasında rastlandığı bildirilmektedir [16].
Ekolojisi:
Türe ait örneklerin kserofil step, otsu step ve maki formasyonunda yaşadığı bildirilmektedir
İncelenen materyal:
1♀, Lok. D23, 28.07.2012
Kosova'daki yayılışı: (Harita.5)
Kaçanik.
Palearktik yayılışı:
EU: AL AN! AU BE BH BU BY CR CZ EN ET FI FR GE GR HU IT LA LS LT LU MC MD NL PL RO RU (CT NT ST) SK SL SP SZ UK YU. NA: AG MO TU. AS: AB AK AR AT CH (NE NO) GG KI KO RU (ES FE WS) UZ.

***Rhynocoris* Hahn 1833**

***Rhynocoris iracundus* (Poda, 1761)**
Fenolojisi:
Bu çalışmada türe ait ergin örnekler Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemleri Mayıs-Eylül ayları arasıdır [34].
Ekolojisi:
Genelikle sıcak bölgelerde toprak üzeri otsu vejetasyomnu ya da çalı vejetasyonu çiçekleri üzerinde yaşadığı bildirilmektedir [47].
İncelenen materyal:
4♀♀, 1♂, Lok. D25, 22.07.2012; 2♀♀, Lok. D18, 25.07.2012; 1♀, Lok. D19, 25.07.2012; 1♀, Lok. D26, 30.07.2012:
Kosova'daki yayılışı: (Harita.6)
Dragaş, Prizren, Ştimle.
Palearktik yayılışı:
EL: AL AU BE BH BU BY CR CZ ET FR GE GR HU IT LS LU MC MD PL PO? RO RU

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(CT NT? ST) SK SL SP SV? SZ UK YU. AS: AB AF AK AR AT CH (NW) CY GG IN IQ IS KI LE RU (ES? WS) SY TD TM UZ. EL: Kaşmir.

Miridae Hahn, 1833

***Deraeocoris* Kirschbaum, 1856**

***Deraecoris ruber* (Linnaeus, 1758)**
Fenoloji:
Bu çalışmada türe ait örneklere Haziran ve Temmuz aylarında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine Mayıs-Ağustos ayları arası rastlandığı bildirilmiştir [21].
Ekolojisi:
Bu türün bireylerine ormanlık alan, kültür alanı, dağ yamaçları gibi ayrıca *Corylus avellana, Betula verrucosa, Alnus* spp., *Quercus pedunculata, Salix* spp., *Populus* spp., *Ribes rubrum, Rubus idaeus, Prunus domestica, Rosa* sp., *Ononis spinosa, Abies alba, Pinus silvestris, Larix decidua, Urtica dioeca, Chenopodium* sp., *Lamium* sp., *Ballota nigra, Carduus* sp., *Senecio* sp., *Prunus amygdali, Pirus malus, Cretaegus pyracantha, Rosa* sp., *Quercus* sp., *Helianthus annus, Chenopodium album* konukçuları üzerinde bulunduğu bildirilmiştir [21].
İncelenen materyal:
1♀, 2♂♂, Lok. D3, 28.07.2011; 2♀♀, 2♂♂, Lok. D10, 22.07.2012; 1♀, Lok, D30, 28.06.2012; 1♀, Lok. D26,30.07.2012;
Kosova'daki yayılışı: (Harita.7)
Prizren, Priştina, İstok, Dragaş.
Palearktik yayılışı:
EU: AL AN AU BE BH BU BY CR CZ DE EN ET FR GB GE GR HU IR IT LA LS LU MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG MO. AS: AB AT GG. EL (introduced): N America, Brazil.

***Deraecoris rutilis* (Herrich-Schaeffer, 1838)**
Fenoloji:
Bu çalışmada türe ait örneklere Haziran Temmuz aylarında rastlanmış ve toplanmıştır. Türe ait örneklerin Mayıs-Ağustos ayları arasında rastlandığı bildirilmiştir [22].
Ekolojisi:
Bu türe ait ergin bireylerin kültür alanı, orman formasyonu gibi *Pistacia terebinthus, Triticum durum, Matricaria chamomilla, Cistus albidus, Medicago sativa, Cirsium arvense, Prunus amygdali, Cupressus sempervirens, Eschsholtzia* sp., *Olea europoea, Malva sylvestris, Rosa* sp., *Verbascum* sp., *Prunus persica, Trifolium repens, Vicia cracca, Rubus idaeus, urtica dioica, Pyrus communis, Vicia faba, Alyssum* sp., *Avena sativa, Chenopodium album, Sinapis arvensis, Rubus fruticosus, Quercus* sp., *Pinus* sp., *Anthemis* sp., gibi konukçular üzerinde görüldüğü
bildirilmiştir [16, 22].
İncelenen materyal:
1♂, Lok. D23, 28.07.2012; 1♂, Lok. D24, 26.06.2012;
Kosova'daki yayılışı: (Harita.8)
Kaçanik, Prizren.
Palearktik yayılışı:
EU: AL BH BU CR ET GR HU IT MC RO RU (ST: Caucasus) SK SL UK YU. AS:AB AT CY GG IQ IS LE SY.

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Adelphocoris Reuter,1896

***Adelphocoris seticornis* (Fabricius) 1775**
Fenoloji:
Bu çalışmada türe ait örnekler Haziran-Temmuz aylarda rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemleri Haziran-Eylül ayları arası rastlandığı bildirilmiştir [21].
Ekolojisi:
Bu türe ait bireylerin otsu bitkiler üzerinde, *Lotus uliginosus, Vicia oraca, Trifolium* spp., *Lathyrus pratensis, Urtica dioeca, Lamium* spp., *Thymus spp., Galium* spp., *Chrysanthemum leucantenum, Cirsium* spp., *Centaurea spp., Scorzonera spp., Quercus* spp., *Salix purpurea, ve Rubus idaeus, Trifolium repens, Medicago sativa Matricaria chamomilla* gibi konukçular üzerinde görüldüğü bildirilmiştir [21].
İncelenen materyal:
5♀♀, 7♂♂, Lok. D24, 26.06.2012; 1♀, 2♂♂, Lok. D30, 28.06.2012; 1♂, Lok. D25, 22.07.2012; 1♀, Lok. D10, 22.07.2012; 2♀♀, 1♂, Lok. D26, 30.07.2012; 1♀, Lok. D27, 26.06.2012;
Kosova'daki yayılışı: (Harita.9)
İpek, Dragaş, Priştina, Prizren, İstok.
Palearktik yayılışı:
EU: AL AN AU BE BH BU BY CR CZ DE ET FI FR GB GE GR HU IR IT LA LS LT LU MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. AS: AB AF AK AR AT CH (CE NE NO NW SW) GG KI MG! RU (ES WS) TD TM UZ.

***Adelphocoris vandalicus* (Rossi 1790)**
Fenoloji:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemleri Haziran-Temmuz ayları arası rastlandığı bildirilmektedir [21].
Ekolojisi:
Bu türe ait bireyler orman formasyonu, step geçiş zonu, *Campanula glomerata, Solanum tuberosum, Verbascum thapsus, Heracleum platytenium, Achillea millefolium, Tanacetum vulgare, Artemisia herba alba, Humulus lupulus Pinus silvestris Mentha sp., Vicia cracca, Cirsium arvense, Carduus sp., Echium sp., Rumex acetosella, Hypericum perforatum, Sinapis arvensis, Medicago sativa, Artiplex sp., Trifolium repens* gibi konukçular üzerinde yaşadığı bildirilmiştir [21].
İncelenen materyal:
1♂, Lok. D23, 28.07.2012
Kosova'daki yayılışı: (Harita.10)
Kaçanik.
Palearktik yayılışı:
EU: AL AU BH BU BY CR CZ EK ET FR GE GR HU IT LT MC MD PL RO RU (ST) SK SL SP SZ UK YU. NA: MO. AS: AB AK AR AT GG.

Campylomma Reuter, 1878

***Campylomma verbasci* (Meyer-Dür, 1843)**
Fenolojisi:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemleri Haziran-Eylül ayları arası rastlandığı bildirilmiştir [21].
Ekolojisi:
Bu türün bireylerine ormanlık alan kültür alanı, bağlık alan topraklı yol kenarı

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Verbascum thapsus, Echium sp., *Verbena stricta, Brassica nigra, Mentha aquatica, Gossypium herbaceum, Hyssopus officinalis, Oenothera* sp., *Stachys lanata, Solanum tuberosum, Pirus malus* ve *P. communis*'tir. *Sinapis arvensis, Heliotropium* sp., *Beta vulgaris, Cucurbita pepo, Cupressus sempervirens, Quercus* sp. *Vitex agnus castus* gibi konukçular üzerinde bulunduğu bildirilmiştir [21]. Ayrıca Knight (1941), bu türün bitki biti kolonilerine saldırarak onların çıkardığı tatlımsı maddelerle beslendiğini ileri sürmektedir. Leonard (1965), bu türün hem phytophag ve hem de zoophag olduğunu, elma ve armut ağaçlarının birçok kısımları ve bunlar üzerinde bulunan bitki biti ve kırmızı örümceklerle beslendiğini bildirmektedir. Ayrıca aynı araştırıcı bu türün elma ve armutlarda ateş yanıklığı hastalığının etmeni olan *Bacillus amylovorus* (Burr.)'un vektörü olduğunu kaydetmektedir [21].
İncelenen materyal:
1♂, Lok. D25, 22.07.2012;
Kosova'daki yayılışı: (Harita.11)
Prizren.
Palearktik yayılışı:
EU: AN AU BE BH BU BY CR CZ EK EN! ET FI FR GB GE GR HU IT LA LS LU MC MD NL NR PL PO RO RU (ST) SK SP SV SZ UK YU. NA: AG EG LB MO TU. AS: AB AF AK AR AT CH (NO NW) CY GG IN IS! JO KI SA? TD UZ.
EL: N Amerika.

***Plagiognathus* Fieber, 1858**

***Plagiognathus chrysanthemi* (Wolff, 1804)**
Fenolojisi:
Bu çalışmada türe ait örneklere Haziran Temmuz ve Ağustos aylarında rastlanmış ve toplanmıştır. Türe ait örneklein aktif dönemleri Mart-Ağustos ayları arası rastlandığı bildirilmiştir [21].
Ekolojisi:
Urtica dioeca, Euphorbia esula, Hypericum sp., *Epilobium* sp., *Oenothora biennis, Solanum tuberosum, Anchus officinalis, Echium vulgare, Mentha* sp., *Galium* sp., *Artemisia* sp., *Achillea millefolium, Tanacetum vulgare, Chrysanthemum leucanthemum, Centaurea* sp., *Verbascum* sp., *Veronica longifolia, Alnus glutinosa, Quercus pedunculata, Genista* sp., *Fraxinus excelsior, Trifolium* sp., *Datura stramonium, Senecio jacobaea, Matricaria martima, Medicago lupulina, Vicia sativa, Sinapis arvensis, Hordeum murinum, Agropyrum repens, Matricaria chamomilla, Chenopodium album, Pirus malus, P. elaeagrifolia, Prunus cerasus, P. doöestica Pinus sp.,* gibi konukçular üzerinde buluduğu bildirilimiştir [21].
İncelenen materyal:
4♀♀, Lok. D21, 27.08.2012; 3♀♀, 1♂, Lok. D2, 22.07.2011; 1♀, 2♂♂, Lok. D30, 28.06.2012;
Kosova'daki yayılışı: (Harita.12)
İstok, Ştimle Prizren
Palearktik yayılışı:
EU: AL AN AU BE BH BU BY CR CZ DE EK EN ET FI FR GB GE GR HU IR IT LA LS LT LU MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. AS: AB AK AR AT CH (NE NO NW SW) GG IQ IS? JA KI MG RU (ES FE WS) TD UZ. EL: N Amerika.

Lygaeidae Schiling, 1829

***Lygaeus* Fabricus, 1794**

***Lygaeus equestris* Linnaeus, 1758**

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Fenolojisi:
Bu çalışmada türe ait örneklere Temmuz ve Ağustos aylarında rastlanmış ve toplanmıştır. Türe ait örnekler Nisan-Eylül aylarında arasında rastlandığı bildirilmiştir [43, 22, 16].
Ekolojisi:
Türe ait ergin bireylerin taş altlarında, otsu bitkiler çalı formasyonu, step, su kenarı formasyonu kültür alanı ve orman formasyonu gibi *Achilea odorado, Vincetoxicum officinale, Adonis* sp., *Seseeli hippomarathrum, Circium* sp., *Sambucus nigra, Taraxacum* sp., *Pimpinella anisum, Medicago sativa, Paliurus orientalis, Umbelliferae* sp., *Erodium sp., Aethionema* sp., *Triticum* sp., *Vitis vinifera, Cydonia vulgaris, Gundelia tournefortii, Loctuca serriola, Solanum lycopersicum, Achillea odorato, Astragalus* sp., *Centaurea* sp., *Chenopodium* sp., *Convolvulus* sp., *Elaeagnus orientalis, Nerium oleander, Olea europea, Onopordum sp., Peganum harmala, Pinus* sp., *Pyrus communnis., P. malus, Pistacia vera., Platanus* sp., *Populus* sp., *Prunus armeniaca, P. domestica, Quercus sp., Rhus* sp., *Sinapis* sp., *Spinacia oleracea, Tamarix* sp., *Verbascum* sp., *Vicia* sp., *Vitex* sp., konukçuları üzerinde bulunduğu bildirilmiştir [43, 22, 16].
İncelenen materyal:
2♀♀, Lok. D12, 04.07.2012; 1♀, 1♂, Lok. D11, 29.07.2012; 1♀, 2♂♂, Lok. D25, 22.07.2012; 4♀♀, 2♂♂, Lok. D18, 25.07.2012; 1♀, Lok. D3, 28.07.2011; 1♀, Lok.D29, 28.07.2012; 1♂, Lok. D14, 24.07.2012; 1♂, Lok. D21, 27.08.2012; 1♀, Lok.D23, 28.07.2012; 1♀, Lok. D7, 23.07.2012; 1♂, Lok. D26, 30.07.2012;
Kosova'daki yayılışı: (Harita.13)
Prizren, Yakova (Radoniç gölü), Suvareka, Kaçanik, Yakova ve Dragaş.
Palearktik yayılışı:
EU: AL AN! AU BE BH BU CR CZ DE EK ET FI FR GB (vagrant) GE GR HU IT LA LS LT LU? MC MD NL? PL PO RO RU(CT ST) SK SL SP SV SZ UK YU. NA: AG MO TU LB EG. AS: AB AF AK AR AT CH (CE NE NO NW SW WP) CY GG IN IQ IS JA JO KI KO LE MG RU (ES FE WS) SY TD TM UZ. EL: Hindistan (kuzeybatı), Pakistan.

Spilostethus saxatilis **(Scopoli, 1763)**
Fenolojisi:
Bu çalışmada türe ait örnekler Haziran Temmuz ve Ağustos aylarında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine Mayıs-Ağustos aylarında rastlandığı bildirilmiştir [43,16].
Ekolojisi:
Türe ait ergin bireylerin taş altlarında, otsu bitkiler ve toprak üzerinde yaşadığı ayrıca *Alhagi* sp., *Astragalus* sp., *Beta vulgaris, Cannabis sativa, Centaurea* sp., *Chenopodium* sp., *Cirsium* sp., *Convolvulus* sp., *Cupressus* sp., *Genista* sp., *Hordeum* sp., *Hypericum* sp., *Juncus* sp., *Juniperus* sp., *Medicago sativa., Onopordum* sp., *Pinus* sp., *Pyrus malus, Prunus armeniaca, Quercus* sp., *Ulmus* sp., *Verbascum* sp., *Viscum album* gibi konukçular üzerinde yaşadığı bildirilmiştir [43,16].
İncelenen materyal:
3♀♀, 2♂♂, Lok. D4, 05.08.2011; 1♀, Lok. D8, 24.07.2012; 6♀♀, 6♂♂, Lok. D18, 25.07.2012; 1♂, Lok. D23, 28.07.2012; 2♀♀, Lok. D26, 30.07.2012; 1♀, 1♂, Lok.D1, 21.07.2011; 2, Lok. D27, 26.06.2012; 1♂, Lok. D25, 22.07.2012; 1♀, Lok. D13, 24.07.2012; 9♀♀, 1♂, Lok. D28, 27.08.2012;
Kosova'daki yayılışı: (Harita.14)
İpek, Kaçanik, Dragaş, Prizren, Elezhan.
Palearktik yayılışı:
EU: AL AN! AU BE BH BU CR CZ FR GE GR HU IT LS LU MC NL? PL PO RO RU (ST) SK SL SP SZ UK YU. NA: AG CI EG LB MO TU. AS: AB AF AR AT CY GG IN IQ IS JO SY TM UZ. EL: Hindistan?, Kaşhmir.

Nithechus **Horváth, 1890**

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***Nithecus jacobaeae* (Schiling, 1829)**
Fenoloji:
Bu çalışmada türe ait örneklere Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklere Nisan-Temmuz ayları arasında rastlanmış [43].
Ekoloji:
Türe ait ergin bireylere *Armeniaca vulgaris, Cedrus* sp., *Juniperus* sp., *Lonicera* sp., *Mentha* sp., *Rhus* sp., *Rumex* sp., *Salvia* sp., *Scrophularia* sp., yabani otlar, yaprak döküntülerinde bulunur. Ayrıca ek olarak ta ormanlık alanda *Pinus* sp. *Astragalus* sp., gibi konukçuları üzerinde bulunduğu bildirilmiştir [43].
İncelenen materyal:
1♀, 1♂, Lok. D14, 27.07.2012
Kosova'daki yayılışı: (Harita.15)
Prizren.
Palearktik yayılışı:
EU: AL AN AU BH BU BY CR CZ EN FI FR GE HU İT LA LS LT MC NR PL RO RU (CT NT) SK SL SP SV SZ UK YU. AS: AK MG RU (ES FE WS).

***Megalonotus* Fieber, 1860**

***Megalonotus chiragra* (Fabricius, 1794)**
Fenoloji:
Bu çalışmada türe ait ergin öreneklere Temmuz ayında rastlanmış ve toplanmıştır. Türe ait ergin örneklere Mayıs-Eylül ayların arasında rastlanmış [44].
Ekoloji:
Genelikle taşların ve yosunlar arasında ayrıca kurumuş yapraklar arasında, kumsal bölgelerde, dere kenarlarında rastlandığı bildirilmektedir [47].
İncelenen materyal:
1♀, Lok. D25, 22.07.2012; 1♂, Lok. D9, 23.07.2012;
Kosova'daki yayılışı: (Harita.16)
Yakova, Prizren.
Palearktik yayılışı:
EU: AL AN AU BE BH BU BY CR CZ DE EN ET FI FR GB GE GR HU IR IT LA LS LT LU MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG CI? TU. AS: AB AK AT CH (NE NO) GG IN KI MG RU (ES WS).

Rhyparochromus Hahn, 1826

***Rhyparochromus pini* (Linnaeus, 1758)**
Fenolojisi:
Bu çalışmada türe ait öreneklere Temmuz ayında rastlanmış ve toplanmıştır. Türe ait ergin örneklein aktif dönemleri Mayıs-Eylül ayları arası rastlanmış [35].
Ekolojisi:
Genelikle dökülmüş yapraklar altında, ibreli formasyonda, çalılar üzerinde yaşadığı bildirilmektedir [48].
İncelenen materyal:
1♀, 1♂, Lok. D25, 22.07.2012; 1♂, Lok. D26, 30.07.2012; 1♀, Lok. D9, 23.07.2012;
Kosova'daki yayılışı: (Harita.17)
Dragaş, Prizren Yakova
Palearktik yayılışı:
EU: AL AN AU BE BH BU BY CR CZ DE EK EN FI FR GB GE GR HU IT LA LS LT LU MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG? CI MO. AS: AB AF AK AR AT CH NO NW WP GG KI KO MG RU (ES FE WS) TD TM UZ.

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***Rhyparochromus vulgaris* (Schilling, 1829)**
Fenolojisi:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklere Nisan-Ağustos ayları arası rastlandığı bildirilmektedir [43].
Ekolojisi:
Örneklere *Quercus* sp., *Triticum* sp., *Asphodelus* sp., gibi konukçular üzerinde görüldüğü bildirilmektedir [43].
İncelenen Materyal:
1♀, Lok. D3, 28.07.2011;
Kosova'daki yayılışı: (Harita.18)
Prizren
Palearktik yayılışı:
EU: AL AU BE BH BU BY CR CZ EK ET FR GE GR HU IT LU MC MD NL PL RO RU (CT ST) SK SL SP SV SZ UK YU. AS: AB AR AT CY GG IN IS TM

***Pterotmetus* Amyot & Serville 1843**

***Pterotmetus staphyliniformis* (Schlling, 1829)**
Fenolojisi:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Literatüre göre türe ait örnekler Mayıs-Eylül aylarında rastlanmıştır [35].
Ekolojisi:
Kurak ve sıcak bölgelerde toprak üzerinde taş ya da bitkisel döküntü altında [48].
İncelenen materyal:
1örnek, Lok. D26, 30.07.2012;
Kosovadaki yayılışı: (Harita.19)
Dragaş.
Kosova Heteroptera faunası için ilk ve yeni kayıttır.
Palearktik yayılışı:
EU: AL AN AU BE BH BU BY CZ DE EK EN ET FI FR GB GE GR HU IT LA LU MC MD NL NR PL RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: MO? AS: AB AK AR AT CH (NO) GG? IN KI MG RU (ES FE WS) UZ.

Berytidae Fieber, 1851

***Berytinus* Kirkaldy, 1900**

***Berytinus montivagus* (Meyer & Dür, 1841)**
Fenolojisi:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait ergin örneklerin aktif dönemleri Mayıs-Eylül aylarında rastlanmıştır [35].
Ekolojisi:
Genelikle kurak ve güneşli yerlerde, vejetasyon altında yaşadıkları bildirilmektedir [48].
İncelenen materyal:
1♂, Lok. D26, 30.07.2012
Kosovadaki yayılışı: (Harita.20)
Dragaş.
Palearktik yayılışı:
EU: AL AN! AU BE? BH BU CR CZ DE EN? ET FR GB GE GR HU IR IT LU? MA MC MD NL PO RO RU (CT ST) SK SL SP SV SZ UK YU. NA: AG CI EG LB MO MR TU. AS: AB AK AR AT CY GG IN IQ IS JO KI! LE SY TD UZ.

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Pyrrhocoridae Amyot & Serville, 1843

***Pyrrhocoris* Fallen, 1814**

***Pyrrhocoris apterus* (Linnaeus, 1758)**
Fenoloji:
Bu çalışmada türe ait örneklere Temmuz ve Auğustos aylarında rastLanmış ve toplanmıştır. Türe ait örneklere Mayıs-Eylül ayları arasında rastlandığı bildirilmektedir [16, 22].
Ekoloji:
Türe ait ergin bireylerin nemli yerlerde, toprak içinde, bitki artıkları üzerinde, yol kenarı otsu step ile *Althaea* sp., konukçusu üzerinde bulunduğu bildirilmiştir [16,22].
İncelenen materyal:
1♂, Lok. D3, 28.07.2011; 11♀♀, 2♂♂, Lok. D10, 22.07.2012; 2♂♂, Lok. D28, 27.08.2012; 1♂, Lok. D18, 25.07.2012; 1♀, Lok. D26, 30.07.2012;
Kosova'daki yayılışı: (Harita.21)
Dragaş, Elezan, Priştina, Prizren,
Palearktik yayılışı:
EU: AL AN! AU BE BH BU BY CR CZ DE EK EN ET FR GB GE GR HU IT LA LS LT LU MC MD NL PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG MO TU. AS: AB AF AK AR AT CH (NW) CY GG IN IQ IS KI KU MG RU (WS) SA SY TD TM UZ. EL: Pakistan.

Rhopalidae Amyot & Serville, 1843

***Brachycarenus* Fieber, 1861**

***Brachycarenus tigrinus* (Schilling, 1829)**
Fenoloji:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait ergin örneklerin aktif dönemlerine Nisan–Eylül ayları arası rastlandığı bildirilmektedir [16].
Ekoloji:
Türe ait ergin bireylerin kültür alanlarında yabancı otlar üzerinde yaşadığı bildirilmektedir [16].
İncelenen materyal:
1♀, 1♂, Lok. D10, 22.07.2012;
Kosova'daki yayılışı: (Harita.22)
Priştina.
Palearktik yayılışı:
EU: AL AU BE BH BU BY CR CZ DE EK ET FI FR GB GE GR HU IT LU MA MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG AZ CI LB MO MR TU. AS: AB AF AK AR AT CH (NO NW SW/WP) CY GG IN IQ IS JO KI KO MG RU (ES WS) TD TM UZ. EL: Nearctik Region (USA, introduced), Oriental bölge (Kaşmir).

***Corizus* Fallen, 1814**

***Corizus hyoscyami hyoscyami* (Linnaeus, 1758)**
Fenoloji:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait ergin örneklerin aktif dönemlerine Mart-Eylül ayları arası rastlandığı bildirilmektedir [16, 22].

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Ekoloji:
Türe ait ergin bireylerin otsu step, kserofil step, karışık orman formasyonu, *Pinus nigra Quercus sp., Populus tremula* gibi ekili alan ve kültür alanı step geçiş zonunda çayır otları, *Lactuca serriola, Medicago sativa, Olea europaea, Phlomis armeniaca, Pimpinella anisum, Prunus amygdali, Scabiosa argentea, Sesanum indicum, Sinapis arvense, Solanum lycopersicum, Verbena officinalis, Echinops* sp., *Hypericum* sp., *Galium* sp., *Verbascum* sp., *Inula* sp., *Mentha* sp., *Erodium* sp., *Triticum* sp., *Ulmus* sp., *Pulicaria* sp., konukçuları üzerinde yaşadığı bildirilmektedir [16, 22].
İncelenen materyal:
1♂, Lok. D26, 30.07.2012; 2♀♀, 1♂, Lok. D25, 22.07.2012; 1♀, Lok. D19, 25.07.2012; 1♀, Lok. D1, 21.07.2011; 1♀, Lok. D12, 04.07.2012; 2♀♀, Lok. D14, 24.07.2012;
Kosova'daki yayılışı: (Harita.23)
Dragaş, Ştimle, Prizren.
Palearktik yayılışı:
EU: AL AN AU BE BH BU BY CR CZ DE EK EN ET FI FR GB GE GR HU IR IT LA LS LT LU MA MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: EG LB. AS: AB AF AK AR AT CH (NE NO NW SW) CY GG IN IQ IS JO KI KO LE MG RU (ES FE WS) SI SY TD TM UZ. EL: Oriental bölge.

Stenocephalidae

***Dicranocephalus* Hahn, 1826**

***Dicranocephalus albipes* (Fabricius, 1781)**
Fenoloji:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemleri Mayıs-Eylül aylarında rastlanmıştır [35].
Ekoloji:
Euphorbia bitkileri üzerinde, *Cistus monspeliensis* türleri üzerinde bulunduğu bildirilmektedir [48].
İncelenen materyal:
1♂, Lok. D12, 04.07.2012;
Kosovadaki yayılışı: (Harita.24)
Prizren
Palearktik yayılış:
EU: AL AU BH BU CR CZ EK FR GE GR HU IT MA MC MD PL PO RO RU (ST) SK SL SP SZ UK YU. NA: AG AZ MO MR. AS: AB AT CY GG IN IQ IS SY.

Coreidae Leach, 1815

***Ceraleptus* Costa 1847**

***Ceraleptus gracilicornis* (Herrich-Schaeffer, 1835)**
Fenoloji:
Bu çalışmada türe ait örneklere Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örnekleri aktif dönemlerine Mayıs-Ağustos ayları arasında rastlandığı bildirilmektedir [16].
Ekoloji:
Türe ait erginlerin otsu bitkiler üzerinde yaşadığı bildirilmiştir [16].
İncelenen materyal.
1♂, Lok. D7, 23.07.2012; 1♂, Lok. D19, 25.07.2012;

Kosova'daki yayılışı: (Harita.25)
Ştimle, Yakova
Palearktik yayılışı:
EU: AL AN AU BE BH BU CT CZ ET FR GE GR HU IT LU MC MD PL PO RO RU (ST) SK SL SP SZ UK YU. NA: AG MO MR. AS: AB AR AT CY GG IN IQ SY.

***Coreus* Fabricius, 1794**

***Coreus marginatus* (Linnaeus, 1758)**
Fenoloji:
Bu çalışmada türe ait örneklere Haziran-Ağustos aylarında rastlanmış ve toplanmıştır. Türe ait örneklere Mayıs-Eylül ayları arası rastlanmış [16, 22].
Ekoloji:
Türe ait ergin bireylerin kültür alanları, yol kenarı steplerde *Pinus nigra, Populus tremula,* ormanlık alanlarda ve ayrıca *Rumex crispus, Rubus ideaeus, Heracleum* sp., *Circium* sp., *Verbascum* sp., *Pitedia* sp., gibi konukçular üzerinde rastlanmış [22].
İncelenen materyal:
2♀♀, 4♂♂, Lok. D13, 24.07.2012; 12♀♀, 19♂♂, Lok. D27, 26.06.2012; 4♀♀, 3♂♂, Lok. D29, 28.07.2012; 10♀♀, 9♂♂, Lok. D30, 28.06.2012; 1♂, Lok. D8,24.07.2012; 5♀♀, 12♂♂, Lok. D10, 22.07.2012; 3♀♀, 11♂♂, Lok. D16, 28.07.2012; 2♀♀, 3♂♂, Lok. D3, 28.07.2011; 12♀♀, 10♂♂, Lok. D18, 25.07.2012; 1♀, Lok. D4, 05.08.2011; 1♀, 1♂, Lok. D25, 22.07.2012; 1♀, Lok. D11, 29.07.2012; 1♂, Lok. D15, 05.07.2012; 1♂, Lok. D23, 28.07.2012;
Kosova'daki yayılışı: (Harita.26)
İpek, İstok, Yakova (Radoniç gölü) Prizren, Priştina, Kaçanik, Ştrıpçe.
Palearktik yayılışı:
EU: AL AN AU BE BH BU BY CR CZ DE EK EN ET FI FR GB GE GR HU IR IT LA LS LT LU MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG. AS: AB AK AR AT CH (NW) GG IN IQ IS KI LE RU (ES WS) SY TD TM UZ.

***Gonocerus* Berthold 1827**

***Gonocerus insidiator* (Fabricius, 1787)**
Fenoloji:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine Nisan-Temmuz ayları arasında rastlandığı bildirilmektedir [35].
Ekoloji:
Arbutus unedo üzerinde yaşadığı bildirilmektedir [48].
İncelenen materyal:
1♀, Lok. D25, 22.07.2012;
Kosovadaki yayılışı: (Harita.27)
Prizren
Palearktik yayılış:
EU: BH CR FR GR IT PO SP YU?. NA: AG CI MO TU. AS: AT CY.

Scutelleridae Leach, 1815

***Psacasta* Germar, 1839**

***Psacasta exanthematica exanthematica* (Scopoli, 1763)**
Fenoloji:
Bu çalışmada türe ait örneklere Haziran ve Temmuz aylarında rastlanmış ve toplanmıştır.

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Türe ait bireyler Haziran - Eylül aylarında raslanmış ve toplanmıştır [35].
Ekoloji:
Genelikle *Boraginaceae* bitkiler üzerinde yaşadığı bildirilmektedir [48].
İncelenen materyal:
1♂, Lok. D30, 28.06.2012; 1♂, Lok. D18, 25.07.2012; 1♀, Lok. D9, 23.07.2012;
Kosova'daki yayılışı: (Harita.28)
Yakova, İstok, Prizren.
Palearktik yayılışı:
EU: AL BH BU CR CZ ET FR GE GR HU IT MC PL PO RO SK SL SP SZ UK (S Crimea) YU. NA: EG MR. AS: AB AR AT IN IQ IS JO SY.

Pentatomidae Leach, 1815

***Aelia* Fabricius, 1803**

***Aelia rostrata* Boheman, 1852**
Fenoloji:
Bu çalışmada türe ait ergin örneklere Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine Mayıs-Ağustos aylarında rastlanmıştır [18, 22].
Ekoloji:
Tarım arazilerinin kenar zonları, ormanlık alan, çayırlar gibi yabancı ot *Triticum* sp., *Hordeum* sp., *Poaceae* sp., *Aegilops* sp., *Sinapis arvensis, Pinus nigra, Astragalus microcephalus, Daucus carota, Heracleum platytenium, Quercus pubescens* konukçular üzerinde rastlandığı bildirilmektedir [18, 22].
İncelenen materyal:
1♀, Lok. D16, 28.07.2012; 2♀♀, Lok. D23, 28.07.2012:
Kosova'daki yayılışı: (Harita.29)
Kaçanik, Ştrıpçe.
Palearktik yayılışı:
EU: AL AU BH BU BY CR CZ DE ET FR GE GR HU IT LT MC MD PL PO RO RU (CT ST) SK SL SP SV UK YU. NA: AG LB MO TU. AS: AB AK AR AT CY GG IN IQ SY.

***Carpocoris* Kolenati 1846**

***Carpocoris purpureipennis* (De Geer, 1773)**
Fenoloji:
Bu çalışmada türe ait ergin örneklere Haziran-Auğustos ayları sonuna kadar rastlanmış ve toplanmıştır. Türe ait örneklerin aktif periyotları'na Mayıs-Ekim ayları arası raslanmıştır [18].
Ekoloji:
Yol kenarı, orman içi, tarım arazilerinin kenar zonları, ekilmemiş arazideki doğal yayılış gösteren otsu bitkiler, çayırlık, *Triticum* sp., *Onopordon* sp., *Carlina* sp., *Carduus pycnocephalus*, *Echinops microcephalus*, *Helianthus annuus*, [13, 18].
İncelenen Materyal:
2♀♀, Lok. D1, 21.07.2011; 8♀♀, Lok. D4, 05.08.2011; 16♀♀, 4♂♂, Lok. D7, 23.07.2012; 5♀♀, Lok. D8, 24.07.2012; 5♀♀, Lok. D11, 29.07.2012; 10♀♀, 1♂, Lok. D12, 04.07.2012; 2♀♀, Lok. D13, 24.07.2012; 1♀, 5♂♂, Lok. D14, 24.07.2012; 5♀♀, 3♂♂, Lok. D16, 28.07.2012; 11♀♀, Lok. D18, 25.07.2012; 4♀♀, Lok. D19, 25.07.2012; 3♀♀, 2♂♂, Lok. D23, 28.07.2012; 8♀♀, Lok. D25, 22.07.2012; 1♀, 2♂♂, Lok. D26, 30.07.2012; 8♀♀, 4♂♂, Lok. D27, 26.06.2012; 1♀, Lok. D28, 27.08.2012; 1♀, Lok. D29, 28.07.2012; 3♀♀, 2♂♂, Lok. D30, 28.06.2012;
Kosova'da yayılışı: (Harita.30)
Dragaş, Ştrıpçe, Prizren, Kaçanik, Ştimle, İstok, İpek, Yakova.

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Palearktik yayılışı:
EU: AL AU BE BH BU BY CR CZ DE EN ET FI FR GB GE GR HU IT LA LS LT LU MC MD NL NR PL RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG LB MO. AS: AB AK AR AT CH (NE NO NW) CY GG IN IS JA KI KO MG RU (ES FE WS) SY UZ. EL: Pakstan.

***Carpocoris fuscispinus* (Boheman 1850)**
Fenoloji:
Bu çalışmada türe ait örneklere Haziran ve Temmuz aylarında rastlanmış ve toplanmıştır. Türe ait örneklere Haziran-Ekim ayları arasında rastlandığı bildirilmektedir [34].
Ekoloji:
Türe ait erginlerin otsu step, alpin vejetasyonu ve yabancı ot, *Salix, Centaurea, Compositae, Astragaalus, Anthriscus anatolicus* üzerinde yaşadığı bildirilmektedir [22].
İncelenen materyal:
1♀, 1♂, Lok. D13, 24.07.2012; 1♀, 1♂, Lok. D25, 22.07.2012; 1♀, Lok. D16, 28.07.2012; 1♀, Lok. D30, 28.06.2012;
Kosovadaki yayılışı: (Harita.31)
Prizren, Ştırpçe, İstok.
Palearktik yayılış:
EU: AL AU BE BH BU BY CR CZ DE EK EN FI FR GE GR HU IT LA LS LT LU MC MD NL PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG EG LB MO. AS: AB AF AK AL AR AT CH (NO NW) GG IN IQ IS KI KO LE MG RU (ES WS) SY TD TM UZ. EL: Hindistan ve Pakistan.

***Carpocoris pudicus* (Poda, 1761)**
Fenoloji:
Bu çalışmada türe ait ergin bireylere Haziran-Ağustos ayları arasında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine Mayıs-Ağustos ayları arasında rastlandığı bildirilmektedir [35].
Ekoloji:
Türe ait erginlerin otsu step, kserofil step, ekili alan, *Pinus nigra, Populus tremula* orman formasyonu, orman step geçiş zonu, maki formasyonu, kserofil çalı formasyonu ve kültür alanı step geçiş zonu ve *Achillea millefolium, Aronia rotundifolia, Atropa belladonna, Cardaria sp., Centaurea aggregates ssp. aggregata, Cichorum intybus, Compositae, Daucus carota, Digitalis micricantha, Dorycnium pentatophyllum, Epibolium angustifolium, Eryngium maritimum, Hypericum perfaratum, Jasminum furticans, Linaria purpurea litoralis, Medicago sativa, Pimpinella* sp., *Rubus idaeus, Rubus ulmifolius, Scabiosa argentea, Scrophularia canina, Thymelia sp. Umbelliferae, Verbascum lychnitis, Viburnum lontana* üzerinde yaşadığı bildirilmektedir [165, 218, 167, 10, 126, 8].
İncelenen materyal:
1♀, Lok. D28, 27.08.2012; 1♀, 3♂♂, Lok. D30, 28.06.2012; 4♀♀, 1♂, Lok. D12, 04.07.2012; 1♀, Lok. D13, 24.07.2012; 1♀, Lok. D14, 24.07.2012;
Kosovadaki yayılışı: (Harita.32)
Ferzovik, İstok Prizren.
Palearktik yayılış:
EU: AL AU BH BU CR CZ ET FR GE GR HU IT MC MD RO RU (ST) SK SL SZ UK YU. NA: EG. AS: AB AR AT CY GG IN IQ LE SY.

***Dolycoris* Mulsant & Rey 1866**

***Dolycoris baccarum* (Linnaeus, 1758)**

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Fenoloji:
Bu çalışmada türe ait örneklere Haziran Temmuz ve Ağustos aylarında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine Mart-Kasım ayları arasında rastlanmıştır [16, 22].
Ekoloji:
Türe ait erginlerin, karışık orman formasyonu, *Pinus nigra Quercus* sp., *orman formasyonu, ekili alan, otsu step, meyve bahçesi gibi Alnus* sp., *Apium graveolenss, Avena barbata, Cannabis sativa, Cardaria draba, Carduus* sp., *Charthamus tinctorius, Centaurea* sp., *Circium arvensis, Cistus albidus, Crataegus sp., Daucus carota, Dorycnium pentatophylum, Fragaria vesca, Fraxinus* sp., *Euphorbia* sp., *Erodium sp., Echinops* sp., *Genista Lydia, Glycina max, Glyrrhiza soja, Gossypium* sp., *Helianthus annus, Heracleum* sp., *Hordeum vulgare, Hyericum sp., Jasminum fructicans, Loctuca sativa, Lonicera etrusca, Malus sylvestris ssp. Milis, Medicago sativa, Nicotiana tobacum Onopordon* sp., *Onosma sericeum, P. elaeagrifolia, Papaver somniferum, Phaseolus vulgaris Phlomis pungens, Pistacia terebinthus, Poa bulbosa, Quercus pubescens,, Rumex acetosella, Rumex scutatus, Scabiosa argentea, Sesamum* sp., *Sesanum indicum, Silene* sp., *Sinapis arvensis, Sinapis* sp., *Soja hispita, Spinacia oleracea, Sytrax officinalis, Taeniatherum crinitum, Thymelia* sp., *Trifolium repens, Triticum aestivum, Triticum sativum, Verbascum globeratum, Vicia cracca, Vicia faba, Vitex agnuscastus, Vitis vinifera* konukçuları üzerinde yaşadığı bildirilmektedir [16, 22].
İncelenen materyal:
7♀♀, 2♂♂, Lok. D26, 30.07.2012; 1♀, Lok. D23, 28.07.2012; 1♀, Lok. D7, 23.07.2012; 2♂♂, Lok. D29, 28.07.2012; 6♀♀, 2♂♂, Lok. D14, 24.07.2012; 1♂, Lok. D30, 28.06.2012; 19♀♀, 10♂♂, Lok. D17, 01.07.2012; 1♀, Lok. D25, 22.07.2012; 4♀♀, 2♂♂, Lok. D12, 04.07.2012; 4♀♀, Lok. D15, 05.07.2012; 12♀♀, 4♂♂, Lok. D8, 24.07.2012; 2♀♀, Lok. D3, 28.07.2011; 5♀♀, Lok. D18, 25.07.2012; 2♀♀, Lok. D28, 27.08.2012; 1♀, Lok. D16, 28.07.2012;
Kosova'daki yayılışı:(Harita.33)
İstok, Yakova, Prizren, Dragaş, Ştrıpçe, Kaçanik, Elezan.
Palearktik yayılışı:
EU: AL AU BE BH BU BY CR CZ DE EK EN ET FI FR GB GE GR HU IR IT LA LS LT LU MA MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG MR. AS: AB AK AR AT CH (CE NE NO NW SE SW WP) CY GG IN IQ IS JA JO KO LE MG RU (ES FE WS) SI SY. EL: Hindistan, Pakistan.

Palomena Mulsant & Rey, 1866

Palomena prasina (Linneaus, 1761)

Fenoloji:
Bu çalışmada türe ait örneklere Haziran ve Temmuz arası aylarda rastlanmış ve toplanmıştır. Türe ait örneklerin aktif periyotları'na Haziran-Eylül aylarında rastlanmış [18].
Ekoloji:
Türe ait erginlerin maki çalı formasyonu, kserofil çalı formasyonu, yaprak döken orman formasyonu, otsu step, *Pinus nigra, Quercus* orman formasyonu ve *Alnus glutinosa, Asparagus officinalis, Beta vulgaris, Betula verrucosa, Cirsium* sp., *Corylus avellana, Crateagus* sp., *Humulus lupulus, Juglans regia, Juniperus communis, Lens esculenta, Medicago sativa, Morus sp., Olea europaea, Pinus nigra, Populus tremula, Paliurus orientalis, Peracleum platytaenium, Picea excelsa, Pinus silvestris, Populus alba, Prunus domestica, Prunus mahaleb, Pyrus communis, Pyrus elaegrifolia, Quercus* sp., *Rosa* sp., *Salix* sp., *Sambucus ebulus, Solanum tuberosum, Tilia* sp., *Umbeliferae, Urtica dioeca* türleri üzerinde yaşadığı bildirilmektedir [16].
İncelenen materyal:

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1♀, Lok. D30, 28.06.2012; 1♀, Lok. D10, 22.07.2012;
Kosova'daki yayılışı: (Harita.34)
İstok, Priştina.
Palearktik yayılışı:
EU: AL AU BE BH BU BY CR CZ DE EK EN ET FI FR GB GE GR HU IR IT LA LS LT LU MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG MO. AS: AB AK AR AT CH (NW) IN GG KI RU (ES WS) SY TD UZ.

***Staria* Dohrn 1860**

***Staria lunata* (Hahn, 1835)**
Fenoloji:
Bu çalışmada türe ait bireylere Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif periyotları'na Mayıs-Eylül aylarında rastlanmış [18].
Ekoloji:
Türe ait örneklerin otsu step, meyve bahçesi, kserofil step, karışık orman formasyonu *Pinus nigra Quercus* sp., ve yabancı ot, *Achillea nobilis, Centaurea iberica, Centaurea jacea, Galium, Glechoma hederacea, Jasminum fructcans, Malus sylestris* ssp., *Milis, Matricaria chamomilla, Paliurus orientalis, Pinus nigra, Platanus orientalis, Scrophularia scopoli, Thymus chamaedrys, T. serpyllum, Poaceae, Potarium* sp., *Syringa* sp., *Trifoloium repens, Verbascum glomeratum* gibi konukçular üzerinde yaşadığı bildirilmektedir [16].
İncelenen materyal:
1♂, Lok. D12, 04.07.2012; 1♀, Lok. D18, 25.07.2012;
Kosova'daki yayılışı: (Harita.35)
Prizren.
Palearktik yayılışı:
EU: AL AU BH BU CR CZ ET FR GE GRR HU IT LU MC MD PL PO RO RU (CT ST) SK SL SP SZ UK YU. NA: AG MO TU. AS: AB AT GG IN IQ IS JO LE SY.

***Piezodorus* Fieber 1861**

***Piezodorus lituratus* (Fabricius, 1794)**
Fenoloji:
Bu çalışmada türe ait öreneklere Haziran ve Temmuz ayında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine, Mayıs-Eylül ayları arası rastlandığı bilirilmektedir [16, 34].
Ekoloji:
Genelikle orman vejetasyonu, çalı vejetasyonu, otsu vejetasyonu gibi bitkilerin yaprakları üzerinde yaşadığı bildirilmektedir [48].
İncelenen materyal:
1♀, Lok. D30, 28.06.2012; 2♀♀, Lok. D10, 22.07.2012;
Kosova'daki yayılışı: (Harita.36)
İstok, Priştina.
Palearktik yayılışı:
EU: AL AU BE BH BU BY CR CZ DE ET FR GB GE GR HU IR IT LA LS LT LU MC MD NL PL PO RO RU (CT ST) SK SL SP SV SZ UK YU. NA: AG AZ MO MR TU. AS: AB AK AR AT CH (NW) CY GG IN IQ IS KI LE RU (ES WS) SY.

***Eurydema* Laporte 1833**

***Eurydema oleracea* (Linneaus, 1758)**
Fenoloji:

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Bu çalışmada türe ait öreneklere Haziran ve Temmuz aylarında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine Mayıs-Ekim aylarında rastlanmıştır [18].
Ekoloji:
Türe ait erginlerin otsu step, kserofil formasyonu, odunlu ağaç gövdesi ve *Alliaria petiolata, Alliaria pfficinalis, Apium graveolens, Armoracia rusticana, Barbarea vulgaris, Berteroa incana, Beta vulgaris, Brassica campestris, Brassica napus, Brassica oleracea, Camelina sativa, Capsella bursa pastoris, Cardamina amara, C. pratensis, Cheiranthus cheiri, Crambe abyssinica, Cruciferae, Cynara scolymus, Daucus carota, Diplotaxys tenuifolia, Eryngium campestre, Erysimum durum, Euphorbia cyparissias, Hasperis matronalis, Hibiscus esculentus, H. Esculentus, Lens esculenta, Matthiola annula, Medicago sativa, Melilotus oficinalis, Nasturtium amoracioides, N. austriacum, N. officinale, N. sylvestre, Petroselinum crispum, Pinus* sp., *Quercus* sp., *Raphanus raphanistrum, R. sativa, Sinapis alba, S. arvensis,*
S. cheiranthus, Sisymbrium alliaria, S. officinale, Stenophragma thalianum, Turritis glabra, Verbascum sp., *Vicia cracca* gibi konukçular üzerinde yaşadığı bildirilmektedir [16].
İncelenen materyal:
5♀♀, 2♂♂, Lok. D25, 22.07.2012; 3♀♀, 2♂♂, Lok. D27, 26.06.2012; 6♂♂, Lok.D16, 28.07.2012; 2♀♀, Lok. D30, 28.06.2012; 1♀, Lok. D26, 30.07.2012; 1♀, Lok.D10, 22.07.2012;
Kosova'daki yayılışı: (Harita.37)
İpek, Prizren, Ştrıpçe, İstok, Dragaş, Priştina,
Palearktik yayılışı:
EU: AL AN AU BE BH BU BY CR CZ DE EK EN ET FI FR GB GE GR HU IT LA LS LT LU MC MD NL NR PL PO RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG AZ? MO TU. AS: AB AK AR AT CH (WP) GG IN IS MG RU (ES WS) SY TD.

***Eurydema ornatum* (Linneaus, 1758)**
Fenoloji:
Bu çalışmada türe ait örneklere Haziran ve Temmuzda rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine Mayıs-Ağustos ayları arasında rastlandığı bildirilmektedir [18, 22].
Ekoloji:
Türe ait erginlerin meyve alanı, ekili alan, kserofil step, otsu step, kültür alanı step geçiş zonu *ve Aethionema* sp., *Apiaceae, Asphodelus microcarpus, Brassica olereae var. Botrytis, Capparis spinosa, Cardari draba, Centaurea sp., Chenopodium* sp., *Cistus albidus, Crambe tatarica, Erysimum kotschyanum, E. myraneum, Fabaceae, Fagus orientalis, Hypericum* sp., *İberis sempervirens, Juglans sp., Malus sylvestris, Matricaria chamomilla, Medicago sativa, Mentha longifolia, Prunus cerasus, Rubus* sp., *Sinapis arvensis, Spinacia oleracea, Tamarix* sp., *Triticum* sp., *Ulmus campestris, U. dioica, Vicia cracca, Vitis vinifera* konukçuları üzerinde yaşadığı bildirilmektedir [16, 22].
İncelenen materyal:
3♀♀, 2♂♂, Lok. D30, 28.06.2012; 2♀♀, 2♂♂, Lok. D25, 22.07.2012; 1, Lok. D26, 30.07.2012 1, Lok. D27, 26.06.2012; 1♀, Lok D10, 22.07.2012;
Kosova'daki yayılışı: (Harita.38)
İpek, İstok, Dragaş, Prizren, Priştina.
Palearktik yayılışı:
EU: AL AU BE BH BU BY CR CZ DE EK EN ET FI FR GE GR HU IT LA LS LT MA MC MD NL PL PO RO RU (CT ST) SK SL SP SV SZ UK YU. NA: AG CI EG LB MO MR TU. AS: AB AF AK AR AT CH (NO NW SW WP) CY GG IN IQ IS JO KU MG RU (ES FE) SI SY TD TM UZ. EL: Etiopya, Hindistan, Pakistan.

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Eurydema fieberii **(Schumell, 1837)**
Fenolojisi:
Bu çalışmada türe ait ergin örneğe Haziran ayında rastlanmış ve toplanmıştır. Türe ait örneklerin aktif dönemlerine Hazran ayında rastlanmış [34].
Ekolojisi:
Brassica napus, *Cardaria draba, Crambe orientalis* L., *Lepidum sativum* L., *Sinapis arvensis*, *Sysmbrium officinale* Brassicaceae gibi, konukçular üzerinde yaşadığı bildirilmektedir [13].
İncelenen materyal:
1♀, Lok. D30, 28.06.2012:
Kosova'daki yayılışı: (Harita.39)
İstok.
Palearktik yayılışı:
EU: AU BH BU CR CZ FR GE GR HU IT MC PL PO RO RU (ST) SK SL SP SZ UK YU. NA: AG MO. AS: AB AK AR AT CH (NW) IN IQ IS MG SY TD UZ. EL:
India.

Graphosoma **Laporte 1833**

Graphosoma lineatum **(Linnaeus, 1758)**
Fenolojisi:
Bu çalışmada türe ait bireylere Haziran, Temmuz ve Ağustos ayları arasında rastlanmış ve toplanmıştır. Türe ait örneklere Nisan-Ağustos aylarında arasında rastlandığı bildirilmektedir [16, 22].
Ekolojisi:
Türe ait erginlerin çayır ve meralarda, tarla kenarı ve bağ gibi *Umbelliferae* sp., *Lactuca* sp., *Chenopodium* sp., *Alyssum umbellatum Melilotus* sp., *Pyrus communis, Matricaria chamomilla, Vitis vinifera, Pimpinella anisum, Paliurus orientalis, Rumex actosella, Urtica diocica, Fraxinus excelsior, Galium verum, Triticum durum, Lactuca* sp., *Crataegus* sp., *Rubus* sp., konukçuları üzerinde yaşadığı bildirilmektedir [16, 22].
İncelenen materyal:
5♀♀, 3♂♂, Lok. D28, 27.08.2012; 15♀♀, 13♂♂, Lok. D18, 25.07.2012; 7♀♀, 6♂♂, Lok. D21, 27.08.2012; 2♀♀, 2♂♂, Lok. D2, 22.07.2011; 4♀♀, 3♂♂, Lok.D9, 23.07.2012; 7♀♀, 7♂♂, Lok. D10, 22.07.2012; 1♀, 1♂, Lok. D8, 24.07.2012;8♀♀, 6♂♂, Lok. D16, 28.07.2012; 6♀♀, 6♂♂, Lok. D23, 28.07.2012; 13♀♀,10♂♂, Lok. D19, 25.07.2012; 4♀♀, 3♂♂, Lok. D7, 23.07.2012; 3♀♀, 4♂♂, Lok.D3, 28.07.2011; 2♀♀, 1♂, Lok. D11, 29.07.2012; 1♀, Lok. D27, 26.06.2012; 3♀♀,3♂♂, Lok. D25, 22.07.2012; 12♀♀, 8♂♂, Lok. D26, 30.07.2012;
Kosova'daki yayılışı: (Harita.40)
Frezovik, Prizren, Suvareka, Yakova, Priştina, Ştrıpçe, Kaçanik, Ştimle, Dragaş Yakova (Radoniç gölü).
Palearktik yayılışı:
EU: AL AU BE BH BU BY CR CZ DE EK EN ET FI FR GE GR HU IT LA LS LT LU MA MC MD NL PL PO RO RU (CT ST) SK SL SP SV SZ UK YU. NA: AG EG MO TU. AS: AB AK AR AT CH (NW) GG IN IQ IS KI LE RU (ES WS) SY TD TM UZ.

Cydnidae Autor, tarih

Sehirus **Amyot & Serville, 1843**

Sehirus luctuosus **Mulsant & Rey, 1866**
Fenoloji:
Bu çalışmada türe ait örneğe Temmuz ayında rastlanmış ve toplanmıştır. Türe ait

örneklerin aktif dönemleri Mayıs-Ağustos aylarında rastlanmıştır [18].
Ekoloji:
Genelikle toprak üzerinde *Salvia pratensis* altında, *Verbascum thapsus, Arthemisia campestis, Myosotis arrensis, Rubusidaeus cereale* gibi türler üzerinde yaşadığı bildirlmektedir [48].
İncelenen materyal:
1♀, Lok. D11, 29.07.2012;
Kosovada yayılışı: (Harita.41)
Yakova (Radoniç gölü).
Palearktik yayılışı:
EU: AL AU BE BH BU BY CR CZ DE EK EN FI FR GB GE GR HU IR IT LA LT LU MC MD NL NR PL RO RU (CT NT ST) SK SL SP SV SZ UK YU. NA: AG. AS: AB AK AR AT GG KI MG RU (WS) TD.

SONUÇ VE ÖNERİLER

Kosova Cumhuriyeti sınırlar içinde 2011-2012 yılları Haziran-Eylül ayları arasında yapılan arazi çalışmaları ile Heteoptera alttakımına ait yarı sucul ve karasal 750 Heteroptera örneği toplanarak teşhis edilmiş, bunların 14 familyaya ait 33 cinsin 40 türüne ait olduğu tespit edilmiştir.

Bu çalışmada verilen 40 türden bir tanesi, Lygaeidae familyasından *Pterotmetus* s*taphyliniformis* türü Kosova'dan ilk faunistik kayıt olarak verilmektedir.

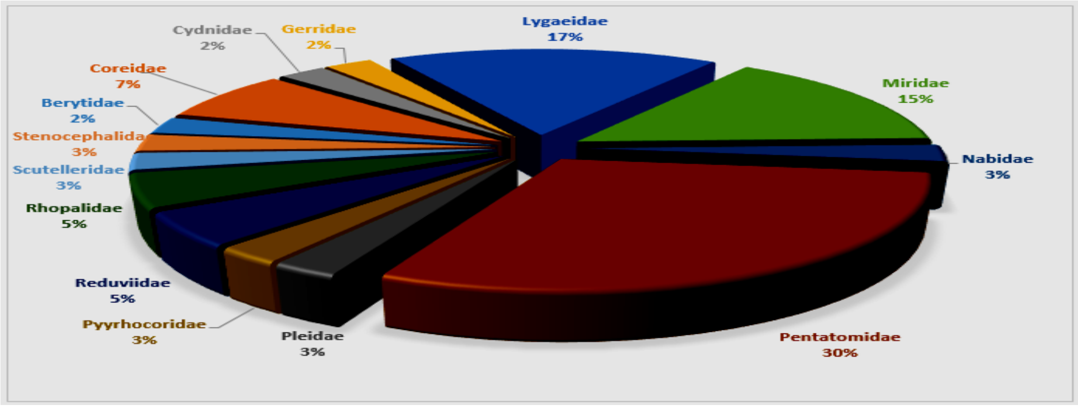
Bunların familyalara dağılımı ve yüzdeleri aşağıdaki çizelge ve grafikte verilmiştir (Çizelge 3, Şekil.1).

Çizelge 3. Bu çalışmada verilen 40 türün Kosova'dan familyalara dağılımı

Familya	**Cins sayısı**	**Tür sayısı**
Berytidae	1	1
Coreidae	3	3
Cydnidae	1	1
Gerridae	1	1
Lygaeidae	6	7
Miridae	4	6
Nabidae	1	1
Pentatomidae	8	12
Pleidae	1	1
Pyyrhocoridae	1	1
Reduviidae	2	2
Rhopalidae	2	2
Scutelleridae	1	1
Stenocephalidae	1	1
Toplam	**33**	**40**

Bu arazi çalışması öncesinde (2011 yılı öncesi) bugünkü Kosova sınırları ile çevrili coğrafyadan toplam 222 tür biliniyor iken [4, 5, 6, 10, 26]; Baymak ve Kıyak'ın (58,59,60) yayınladığı Kosova faunası için 19 yeni tür kaydı, bu çalışmada verilmiş olan *Pterotmetus* s*taphyliniformis* yeni kaydı ve Dioli ve van der Heyden (2022)'in yayınladığı 2 tür kaydı ile Kosova coğrafi sınırlarından kaydı verilen tür sayısı 30 familyaya ait 244'e çıkmıştır (Çizelge 4).
Eski Yugoslavya'da yapılan çalışmalardan belirlenmiş 222 türden 39 türe bu çalışmada da rastlanmış, diğerlerine tesadüf edilememiştir.

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Şekil.1 Bu çalışmada tespit edilen tür sayısının familyalara göre dağılımı grafiği

Arazi çalışması öncesinde (2011 yılı öncesi) bugünkü Kosova sınırları ile çevrili coğrafyadan toplam 222 tür biliniyor iken [4, 5, 6, 10, 26]; Baymak ve Kıyak'ın (58, 59, 60) yayınladığı Kosova faunası için 19 yeni tür kaydı, bu çalışmada verilmiş olan *Pterotmetus staphyliniformis* yeni kaydı ile Dioli ve van der Heyden (2022)'in yayınladığı 2 tür kaydı ile Kosova coğrafi sınırlarından kaydı verilen tür sayısı 30 familyaya ait 244'e çıkmıştır. (Çizelge 4). Eski Yugoslavya'da yapılan çalışmalardan belirlenmiş 222 türden 39 türe bu çalışmada da rastlanmış, diğerlerine tesadüf edilememiştir.

Çizelge 4. Kosova Cumhuriyeti Heteroptera Tür Listesi: I) 2011 öncesi kayıtlar; II) Baymak ve Kıyak (58,59,60) tarafından verilen kayıtlar; III) Dioli & Heyden (61); IV) Bu çalışmada verilen türler. Mevcut (+); yeni kayıt (+*)

Familya/Tür	**I**	**II**	**III**	**IV**
Corixidae				
Corixa punctata (Illiger, 1807)	+			
Sigara lateralis (Leach, 1818)	+			
Sigara (Pseudovermicorixa) nigrolineata (Fieber, 1848)	+			
Sigara (Sigara) striata (Linnaeus, 1758)	+			
Sigara (Subsigara) iactans Jansson, 1983	+			
Sigara (Retrocorixa) limitata (Fieber, 1848)	+			
Micronecta poweri poweri (Douglas & Scott, 1869)	+			
Aphelocheiridae				
Aphelocheirus (Aphelocheirus) aestivalis (Fabricius, 1794)	+			
Notonectidae				
Notonecta (Notonecta) glauca Linnaeus, 1758	+			
Notonecta (Notonecta) viridis Delcourt, 1909	+			
Pleidae				
Plea minutissima (Fabricus 1860)	+			+
Nepidae				
Nepa rubra (Linnaeus 1758)	+			
Belostomatidae				
Belostoma cordofanum (Mayr, 1853)	+			

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Mesovelidae				
Mesovelia furcata Mulsant & Rey, 1852	+			
Hebridae				
Hebrus pusillus (Fallen, 1807)	+			
Hydrometra stagnorum (Linnaeus, 1758)	+			
Velidae				
Velia currens (Fabricus, 1794)	+			
Velia rivulorum (Fabricius, 1775)	+			
Velia (Plesiovelia) caprai Tamanini, 1947	+			
Gerridae				
Gerris lateralis (Schummel, 1832)	+			
Gerris thoracicus (Schummel, 1832)	+			+
Leptopodidae				
Leptopus marmoratus (Goeze, 1778)	+			
Saldidae				
Chartoscirta cocksi (Curtis, 1835)	+			
Macrosaldula variabilis (Herrich-Schaeffer, 1835)	+			
Macrosaldula scotica (Curtis, 1835)	+			
Saldula amplicollis (Router, 1891)	+			
Saldula arenicola (Scholtz, 1847)	+			
Saldula orthochila (Fieber, 1859)	+			
Saldula pallipes (Fabricius, 1794)	+			
Nabidae				
Prostemma guttula guttula (Fabricius, 1787)	+			
Prostemma sanguineum (Rossi, 1790)	+			
Himacerus (Aptus) mirmicoides (O. Costa, 1834)	+			+
Nabis (Dolichonabis) limbatus (Dahlbom, 1851)		+		
Nabis (Nabis) ferus (Linnaeus, 1758)	+			
Nabis capsiformis (Germar, 1838)		+		
Nabis (Nabis) rugosus (Linnaeus, 1758)	+			
Stalia boops (Schiodte, 1870)	+			
Anthocoridae				
Orius (Heterorius) minutus (Linnaeus, 1758)	+			
Lyctocoris campestris (Fabricius, 1794)	+			
Xylocoris obliquus (Costa, 1852)	+			
Cimicidae				
Cimex lectularius (Linnaeus, 1758)	+			
Tingidae				
Agramma minutum (Horváth, 1874)	+			
Copium clavicorne (Linnaeus, 1758)	+			

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Dictyla echii (Schrank, 1781)	+			
Kalama tricornis (Schrank, 1801)	+			
Monosteria unicostata (Mulsant & Rey, 1852)		+		
Oncochila scapularis (Fieber, 1844)	+			
Physatocheila dumetorum (Herrich-Schaeffer, 1838)	+			
Tingis crispata (Herrich-Schaeffer, 1838)	+			
Reduviidae				
Reduvius personatus (Linnaeus, 1758)	+			
Pirates hybridus (Scopoli, 1763)	+			
Coranus subapterus (De Geer, 1773)	+			
Rhinocoris cuspidatus (Ribaut, 1921)	+			
Rhinocoris iracundus (Poda, 1761)	+			+
Phymata crassipes (Fabricius, 1775)	+			+
Miridae				
Daereocoris (Deraeocoris) ruber (Linnaeus, 1758)	+			+
Deraeocoris (Deraeocoris) rutilus (Herrich-Schaeffer, 1839)	+			+
Dicyphus (Brachyceroea) annulatus (Wolff, 1804)	+			
Dicyphus (Brachyceroea) globulifer (Fallen, 1829)	+			
Adelphocoris lineolatus (Goeze, 1778)	+			
Adelphocoris seticornis (Fabricius, 1775)	+			+
Adelphocoris vandalicus (Rossi, 1790)	+			+
Alloeonotus egregius (Fieber, 1864)	+			
Brachycoleus decolor (Reuter, 1887)		+		
Calocoris (Calocoris) angularis (Fieber, 1864)	+			
Calocoris (Lophyromiris) sexguttatus (Faricius, 1776)	+			
Calocoris (Closterotomus) cinctipes (Costa, 1852)	+			
Capsodes (Capsodes) gothicus (Linnaeus, 1758)	+			
Caspodes (Horistus) cingulatus (Fabricius, 1787)	+			
Capsus ater (Linnaeus, 1758)	+			
Chargochilus gyllenhali (Fallen, 1807)	+			
Closterotomus reuteri (Horváth, 1882)			+	
Cyphodema instabile (Lucas, 1849)	+			
Excentricus planicornis (Herrich-Schaeffer, 1836)			+	
Exolygus pratensis (Linnaeus, 1758)	+			
Leptopterna dolobrata (Linnaeus, 1758)	+			
Leptopterna ferrugata (Fallen, 1807)	+			
Lygus rugulipennis (Poppius, 1911)		+		
Megalocerea recticornis (Geoffroy, 1787)	+			
Orthops kalmi (Linnaeus, 1758)	+			
Orthops montanus (Schilling, 1936)	+			

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Phytocoris (Ktenocoris) ulmi (Linnaeus, 1758)	+			
Phytocoris (Ktenocoris) varipes (Boheman, 1852)	+			
Polymerus (Poeciloscytus) brevicornis (Reuter, 1878)	+			
Polymerus (Poeciloscytus) unifaciatus (Fabricius, 1794)	+			
Stenodema (Stenodema) holsatum (Fabricius, 1787)	+			
Stenodema (Stenodema) laevigatum (Linnaeus, 1758)	+			
Stenodema (Stenodema) virens (Linnaeus, 1767)	+			
Stenotus binotatus (Fabricius, 1794)	+			
Halticus apterus (Linnaeus, 1761)	+			
Halticus luteicollis (Panzer, 1805)	+			
Myrmecophyes latus (Wagner, 1975)	+			
Orthocephalus bivittatus (Fieber, 1864)	+			
Orthocephalus saltator (Hahn, 1835)	+			
Strongylocoris leucocephalus (Linnaeus, 1758)	+			
Globiceps (Praglobiceps) flavomaculatus (Fabricius, 1794)	+			
Systellonotus trigutattus (Linnaeus, 1767)	+			
Campylomma verbasci (Meyer-Dür 1843)	+			+
Criocoris crassicornis (Hahn, 1834)	+			
Heterocapillus tigripes (Mulsant, 1852)	+			
Macrotylus (Macrotylus) quadrillineatus (Schrank, 1785)	+			
Macrotylus (Alloeonycha) paykulli (Fallen, 1807)	+			
Phylus (Phylus) coryli (Linnaeus, 1758)	+			
Plagiognathus (Plagiognathus) chrysanthemi (Wolff, 1864)	+			+
Plagiognathus (Plagiognathus) fulvipennis (Kirschbaum, 1856)	+			
Sthenarus (Asthenarus) ocularis (Mulsant, 1852)	+			
Aradidae				
Aneurus laevis (Fabricius, 1775)	+			
Aradus creanatus (Say, 1831)	+			
Aradus lugubris (Fallen, 1807)	+			
Aradus serbicus (Horváth, 1888)	+			
Piesmatidae				
Piesma (Piesma) maculatum (Laporte de Castelnau, 1833)	+			
Piesma (Parapiesma) variabile (Fieber, 1844)	+			
Berytidae				
Berytinus hirticornis (Brulle, 1835)	+			
Berytinus minor (Herrich-Schaeffer, 1835)	+			
Bertyinus (Lizinus) montivagus (Meyer-Dür 1841)	+			+
Neides tipularius (Linnaeus, 1758)	+			
Gampsocoris culicinus culicinus Seidenstücker, 1948		+		
Gampsocoris punctipes (Germar, 1822)	+			
Metacanthus meridionalis (Costa, 1844)	+			

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Lygaeidae				
Horvathiolus superbus (Pollich, 1779)	+			
Lygaeosoma sardeum (Spinola, 1837)	+			
Lygaeus equestris (Linnaeus, 1758)	+			+
Melanocoryphus albomaculatus (Goeze, 1778)	+			
Melanocorphus tristrami (Douglas & Scott, 1868)	+			
Nithecus jacobaeae (Schiling, 1829)	+			+
Nysius thymi (Wolff, 1804)	+			
Nysius (Tropinysius) senecionis (Schilling, 1829)	+			
Spilostethus pandurus (Scopoli, 1763)		+		
Spilostethus saxatilis (Scopoli, 1763)	+			+
Cymus aurescens (Distant, 1883)	+			
Cymus claviculus (Fallen, 1807)	+			
Cymus glandicolor (Hahn, 1831)	+			
Cymus melanocephalus (Fieber, 1861)	+			
Dimorphopterus doriae (Ferrari, 1874)	+			
Geocoris ater (Fabricius, 1787)	+			
Geocoris ater albipennis (Fabricius, 1803)	+			
Heterogaster affinis (Herrich-Schaeffer, 1835)	+			
Heterogaster artemisiae (Schilling, 1829)	+			
Macroplax preyssleri (Fieber, 1837)	+			
Metopoplax fuscinervis (Stal, 1872)	+			
Microplax interruptus (Fieber, 1837)	+			
Aellopus atratus (Goeze, 1778)	+			
Diomphalus hispidulus (Fieber, 1864)	+			
Drymus (Sylvadrymus) brunneus (Sahlberg 1848)	+			
Drymus (Sylvadrymus) sylvaticus (Fabricius, 1775)	+			
Emblethis griseus (Wolff,1802)	+			
Emblethis verbasci (Fabricius, 1803)	+			
Gastrodes grossipes (De Geer, 1773)		+		
Ischnopeza hirticornis (Herrich-Schaeffer, 1853)	+			
Megalonotus chiragra (Fabricius 1794)	+			+
Megalonotus praetextatus (Herrich-Schaeffer, 1835)	+			
Megalonotus puncticollis (Lucas, 1849)	+			
Megalonotus sabulicola (Thomson, 1870)	+			
Peritrechus angusticollis (Sahlberg, 1848)	+			
Peritrechus geniculatus (Hahn, 1832)	+			
Peritrechus gracilicornis (Puton, 1876)	+			
Peritrechu meridionalis (Puton, 1876)	+			
Peritrechus nubilus (Falen, 1807)	+			

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Rhyparochromus (Graptopeltus) lynceus (Fabricius, 1775)	+			
Rhyparochromus phoeniceus (Rossi, 1794)	+			
Rhyparochromus phoeniceus sanguineus (Douglas & Scott,1868)	+			
Rhyparochromus pini (Linnaeus, 1758)	+			+
Rhyparochromus (Raglius) alboacuminatus (Goeze, 1778)	+			
Rhyparochromus (Rhyparochromus) vulgaris (Schilling, 1829)	+			+
Pterotmetus cf. Staphyliniformis (Schlling,1829)				+ (*)
Scolopostethus pictus (Schilling, 1829)	+			
Scolopostethus grandis (Horváth, 1880)		+		
Scolopostethus thomsoni (Reuter, 1874)	+			
Trapezonotus (Trapezonotus) arenarius (Linnaeus, 1758)	+			
Trapezonotus (Trapezonotus) dispar (Stal, 1872)	+			
Trapezonotus (Trapezonotus) ullrichi (Fieber, 1837)	+			
Pyrrhocoridae				
Pyrrhocoris apterus (Linnaeus,1758)	+			+
Stenocephalidae				
Dicranocephalus agilis (Scopoli, 1763)	+			
Dicranocephalus albipes (Fabricius, 1781)	+			+
Dicranocephalus medius (Mulsant & Rey, 1879)	+			
Coreidae				
Coreus marginatus (Linnaeus, 1758)	+			+
Enoplops disciger (Fabricius, 1794)		+		
Gonocerus acuteangulatus (Goeze, 1778)	+			
Gonocerus insidiator (Fabricius, 1787)	+			+
Phyllomorpha laciniata (Villers, 1789)	+			
Syromastus rhombeus (Linnaeus, 1767)	+			
Ceraleptus gracilicornis (Herrich-Schaeffer, 1835)	+			+
Coriomeris denticulatus (Scopoli, 1763)	+			
Coriomeris hirticornis (Fabricius, 1794)	+			
Coriomeris scabricornis (Panzer, 1809)	+			
Coriomeris spinolai (Costa, 1838)	+			
Alydidae				
Camptopus lateralis (Germar, 1817)	+			
Rhopalidae				
Brachycarenus tigrinus (Schilling, 1829)	+			+
Corizus hyoscyami (Linnaeus, 1758)	+			+
Liorhysus hyalinus (Fabricius, 1794)	+			
Rhopalus parumpunctatus (Schilling, 1817)	+			
Rhopalus rufus (Schilling, 1829)	+			
Rhopalus subrufus (Gmelin, 1788)	+			
Rhopalus conspersus (Fieber, 1836)	+			

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Stictopleurus crassicornis (Linnaeus, 1758)	+			
Stictopleurus abutilion (Rossi, 1790)		+		
Scutelleridae				
Eurygaster maura (Linnaeus, 1758)		+		
Odontoscelis dorsalis (Fabricius, 1803)	+			
Odontoscelis fuliginosa (Linnaeus, 1761)	+			
Odontotarsus purpureolineatus (Rossi, 1790)		+		
Psacasta exanthematica (Scopoli, 1763)	+			+
Psacasta neglecta (Herrich-Schaeffer, 1837)	+			
Pentatomidae				
Graphosoma lineatum (Linnaeus, 1758)	+			+
Graphosoma lineatum italicum (Müller, 1766)	+			
Tholagmus flavolineatus (Fabricius, 1798)		+		
Aelia acuminata (Linnaeus, 1775)	+			
Aelia klugi (Hahn, 1831)	+			
Aelia rostrata (Boheman, 1852)	+			+
Carpocoris fuscispinus (Boheman, 1846)	+			+
Carpocoris melanocerus (Mulsant & Rey, 1852)	+			
Carpocoris pudicus (Poda 1761)	+			+
Carpocoris purpureipennis (De Geer, 1773)	+			+
Carpocoris mediterraneus Tamanini, 1958		+		
Codophila varia (Fabricius, 1787)		+		
Antheminia varicornis (Jakovlev, 1874)		+		
Dolycoris baccarum (Linnaeus, 1758)	+			+
Eurydema fieberi (Fieber, 1836)+	+			+
Eurydema oleracea (Linnaeus, 1758)	+			+
Eurydema ornatum (Linnaeus, 1758)	+			+
Eurydema ventrale Kolenati, 1846		+		
Eysarcoris aeneus (Scopoli, 1763)	+			
Eysarcoris fabricii (Kirkaldy, 1904)	+			
Eysarocoris inconspicuus (Herrich-Schaeffer, 1844)	+			
Holcostethus vernalis (Wolff, 1804)	+			
Palomena prasina (Linnaeus, 1758)	+			+
Pentatoma rufipes (Linnaeus, 1758)	+			
Piezodorus lituratus (Fabricius, 1794)	+			+
Sciocoris cursitans cursitans (Fabricius, 1794)	+			
Sciocoris (Aposciocoris) microphthalmus (Flor, 1860)	+			
Stagonomus amoenus (Brulle, 1832)	+			
Staria lunata (Hahn, 1835)	+			+

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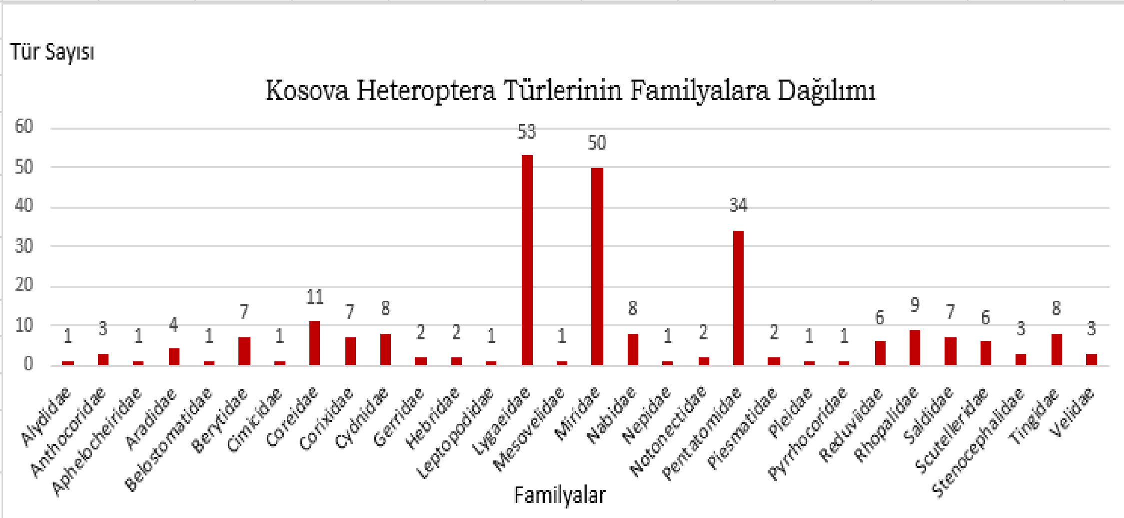
Trochiscocoris rotundatus (Horváth, 1895)	+			
Ancyrosoma leucogramneus (Gmelin, 1790)		+		
Arma custos (Fabricius, 1794)	+			
Zicrona coerulea (Linnaeus, 1758)	+			
Cydnidae				
Adomerus biguttatus (Linnaeus, 1758)	+			
Canthophorus dubius (Scopoli, 1763)	+			
Centhophorus impressus (Horváth, 1881)	+			
Canthophorus melanopterus (Herrich-Schaeffer, 1835)	+			
Sehirus luctuosus (Mulsant & Rey, 1866)	+			+
Sehirus morio (Linnaeus, 1761)	+			
Tritomegas bicolor (Linnaeus, 1758)	+			
Tritomegas sexmaculatus (Rambur, 1842)	+			
Captosoma scutellatum (Geoffroy, 1758)	+			

Kosova'dan literatür kayıtları ve bu çalışmanın sonuçlarına göre bilinen 244 türün 30 familyaya dağılımı ve grafiği aşağıda verilmiştir (Çizelge 5, Şekil 2)

Çizelge 5. Kosova'dan literatür kayıtları ve bu çalışmanın sonuçlarına göre bilinen 244 türün 30 familyaya dağılımı

Familya	Tür Sayısı	Familya	Tür Sayısı
Alydidae	1	Miridae	50
Anthocoridae	3	Nabidae	8
Aphelocheiridae	1	Nepidae	1
Aradidae	4	Notonectidae	2
Belostomatidae	1	Pentatomidae	34
Berytidae	7	Piesmatidae	2
Cimicidae	1	Pleidae	1
Coreidae	11	Pyrrhocoridae	1
Corixidae	7	Reduviidae	6
Cydnidae	8	Rhopalidae	9
Gerridae	2	Saldidae	7
Hebridae	2	Scutelleridae	6
Leptopodidae	1	Stenocephalidae	3
Lygaeidae	53	Tingidae	8
Mesovelidae	1	Velidae	3

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Şekil 2. Kosova'dan literatür kayıtları ve bu çalışmanın sonuçlarına göre tesbit edilen 244 türün 30 familyaya dağılımı grafiği

Çizelge 4'de görüldüğü üzere Kosova sınırları içerisinde eski kayıtlarda görülen bazı familyaların türlerine bu çalışmada rastlanamamıştır.

Ayrıca fauna araştırması olarak planlanan bu çalışma sonucunda eski kayıtlara ait veriler literatürlerden derlenmiş, birçok türün ICZN'ye göre 1961'e kadar geçerli "*forma*" veya "*varyete*" gibi bugün geçerli olmayan tür altı kategorilerinin kullanıldığı tesbit edilmiş, bunlara bu çalışmada yer verilmemiş ve göz ardı edilmiştir.

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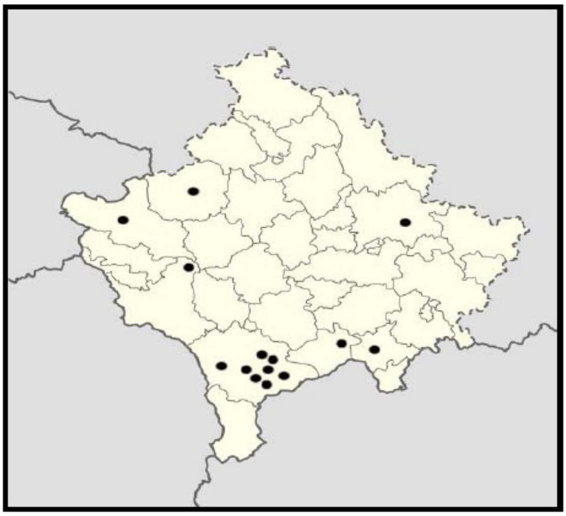


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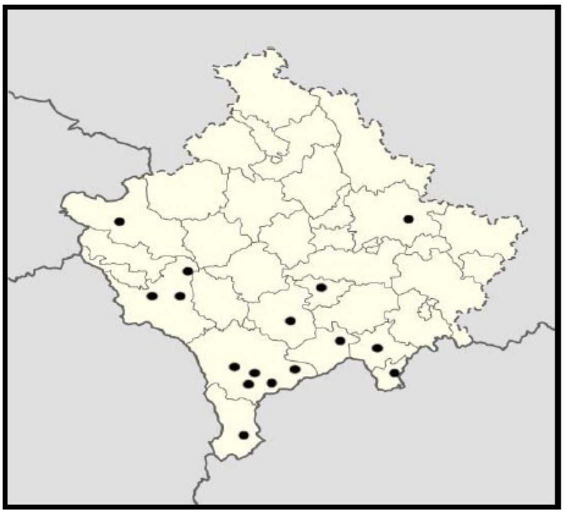
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Short Note

First records of *Sphedanolestes pulchellus* (Klug, 1830) (Hemiptera: Heteroptera: Reduviidae) in Morocco

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ABSTRACT: The first records of *Sphedanolestes pulchellus* (Klug, 1830) for Morocco are reported. Information on the known distribution of this species, mainly present in the Mediterranean Region, is summarized.

KEYWORDS: *Sphedanolestes pulchellus,* first records, distribution, Morocco, Mediterranean Region.

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The genus *Sphedanolestes* Stål, 1867 belongs to the subfamily Harpactorinae of the Reduviidae (Hemiptera: Heteroptera). So far, *Sphedanolestes pulchellus* (Klug, 1830) has been reported from Albania, Bosnia and Hercegovina, Bulgaria, Greece, Italy (Sardinia), North Macedonia, Turkey (European part) in Europe, Algeria, Egypt in North Africa and Cyprus, Iran, Israel, Lebanon, Syria, Turkey (Asian part) and Yemen in Asia (Putshkov & Putshkov, 1996; Protić, 1998; Putshkov & Moulet, 2009; Dursun & Salur, 2013; Najmeh et al., 2020; Aukema, 2022).

The distribution area of this species has been expanded, as specimens of *S. pulchellus* were found in Morocco:

On 08.02.2016 and on 24.06.2020, Alain Roujas photographed specimens of *S. pulchellus* near the village of Sidi R'bat, located in the region Souss-Massa at the Atlantic coast of Morocco (Figs. 1 and 2).

Photos of both specimens were uploaded to the online database iNaturalist (Roujas, 2022a, 2022b).

Likely, *S. pulchellus* reached Morocco by passive transport; possibly by ship from a Mediterranean port.

As *S. pulchellus* has not been reported for Morocco in scientific publications yet, the records reported in this note are the first ones for this country.

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Figure 1. Specimen of *Sphedanolestes pulchellus* (Klug, 1830), near Sidi R'Bat, Souss-Massa, Morocco, 08.02.2016. (Photo: Alain Roujas).



Figure 2. Specimen of *Sphedanolestes pulchellus* (Klug, 1830), near Sidi R'Bat, Souss-Massa, Morocco, 24.06.2020. (Photo: Alain Roujas).

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Research Article

Nemocoris fallenii Sahlberg, 1848 (Heteroptera: Coreidae), New for the Fauna of Turkey

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ABSTRACT: *Nemocoris fallenii* Sahlberg, 1848, a rarely collected Sibero-European species, is recorded from 1750 meter altitude in Ankara, for the first time from Turkey. Its distribution and ecology is summarized. Additionaly, chorotypes of Coreidae species recorded from Turkey, are analyzed.

KEYWORDS: *Nemocoris fallenii*, Coreidae, Turkey, new record

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INTRODUCTION

Heteroptera Latreille, 1810 is a suborder of Hemiptera Linnaeus, 1758 with more than 50.000 species described so far (Henry 2017). The Heteroptera fauna of Turkey is composed of more than 1500 species and the number keeps increasing (Tezcan 2020; Çerçi & Tezcan 2021). It is remarkably more diverse when compared to most of European countries and its neighbours (Aukema 2022). One of the reasons for this diversity is its geographical location between Mediterranean region, Europe and Asia. Accordingly, the Heteropteran fauna of Turkey contains many species of European, Mediterranean and Centralasiatic or Turanian origin. Particularly, European and Sibero -European elements make up about 13% of Heteroptera species in Turkey (Hoberlandt 1956). Moreover, the number of Heteroptera species with European origin in Turkey keeps growing with new records in the

last few years (Yazıcı *et al.* 2014; Çerçi & Koçak 2017; Çerçi *et al.* 2019; Çerçi 2020). The family Coreidae is composed of some 300 species in the Palearctic region (Aukema 2022). Recently, Dursun (2011) presented a checklist of Coreidae fauna of Turkey and listed 48 species. Since that publication, two more species of Coreidae were recorded from Turkey for the first time, increasing the total to 50 species (Yıldırım *et al.* 2011; Kment *et al.* 2013). With the first record of *Nemocoris fallenii* Sahlberg, 1828 from Turkey, the total number of Coreidae species of Turkey reaches to 51.

MATERIAL AND METHODS

The examined specimen was found drown in a pond incidentally by the author during trekking. The specimen was photographed with a Nikon D3300 DSLR camera combined with an 68 mm extension tube and a Lomo 3.7X 0.11 Microscope objective. The specimen is preserved in the private collection of the author. Map 1 was prepared using SimpleMappr (https://www.simplemappr.net/) and Map 2 was prepared on Google Earth Pro (Google Inc., USA). Distribution of species included in chorotype analysis was based on (Aukema 2022) and chorotypes are in accordence with (Vigna Taglianti *et al.* 1999).

RESULTS

Nemocoris fallenii Sahlberg, 1848

Material examined: Ankara, Kızılcahamam, Eğerlibaşköy, 1750 m, 23-04-2022, 1 female, B. Çerçi leg. & det.

Diagnosis: *Nemacoris fallenii* is a member of Pseudophoelini and species of some genera, e. g. *Ceraleptus* spp. and *Anoplocerus* spp., within this tribe look very similar and can be confused with each other easily. Kment *et al.* (2013) conveniently provided an identification key to distinguish all the Palearctic genera of this tribe. According to this identification key, *Nemocoris fallenii* is diagnosed by second and third antennal segments similar in length, posterior margin of pronotum and first antennal segment unarmed, antenniferous tubercules obtuse and metafemora with a single spine apically. However, strongly contrasted white line along the lateral margins of pronotum is an easily noticable and distinctive feature of this species (Figure 1).

Distribution: This species was originally described from Finland and later discovered from most of the continental Europe (Map 1) (Aukema 2022). It also extends to Azerbaijan, Siberia and several Central Asiatic countries in the Asian continent. Despite its widespread distribution, in the literature, it is repeatedly cited as a rarely collected species and regarded as extremely rare or strongly threatened in Germany (Kment *et al.* 2003; Simon *et al.* 2021; Bury & Mazepa 2022). This species had also been recorded from Sicily once, under the synonymous name *Aoplochilus marginatus,* one and a half century ago (Fieber 1861). It is not strictly a high altitude species and collected at sea level in southern Ukraine (Moulet 1995).

Ecology: It is a thermophilic species living on the ground beneath different Fabaceae species, e. g. *Cystus nigricans*, *Vicia hirsuta*, *Lathyrus* spp. and feeding on the seeds of these plants that are softened by acidic soil. Only during mating period between May and June, adults climb up plants and off-springs develop during July and August, again on the ground. The adults overwinter under grass and fallen leaves and become active as early as March (Seidenstücker 1954; Putshkov 1962; Moulet 1995).

Habitat: The adult female specimen examined in this paper was found trapped in a small pond at the altitude of 1750 m in Eğerlibaşköy, Kızılcahamam, north of Ankara province, in late April. The pond was located in a grassland bordered by a dense forest composed mainly of pine trees (*Pinus* sp.) (Map 2).

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Map 1. Distribution of *Nemocoris fallenii* Sahlberg, 1848, based on previous literature and the new record from Turkey (red dot).



Map 2. Location of the collecting site of *Nemocoris fallenii* Sahlberg, 1848 in Turkey.

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Chorological analysis of Coreidae fauna of Turkey

With the new species recorded in this paper, the total number of Coreidae species recorded from Turkey becomes 51. Chorological analysis of these species revealed that Coreidae fauna of Turkey is mainly composed of Mediterranean species (51%, 26 spp.). European and Turanian elements make up 18% (9 spp.) and 7% (4 spp.) of Coreidae fauna of Turkey, respectively. Rest of the species are divided into Sindian (6%, 3 spp.), Anatolo-Caucasian (6%, 3 spp.), Caucasian (4%, 2 spp.), Balkanian (2%, 1 sp.), Western Palaearctic (2%, 1 spp.), Palaearctic (2%, 1 spp.) and Subcosmopolitan (2%, 1 spp.) chorotypes. There are no endemic Coreidae species in Anatolia but 6 species (12%) with Balkanian, Caucasian or Caucaso-Anatolian chorotypes, are restricted to Anatolia and its close vicinity (Table 1).



Figure 1. Photograph of *Nemocoris fallenii* Sahlberg, 1848 from Ankara, Turkey (Scale bar 1 mm).

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Table 1. Coreidae species of Turkey with chorotypes of each species. Anatolo-Caucasian (A-C),Balkanian (B), Caucasian (C,), European (Eu), Europeo-Mediterranean (Eu-M), Europeo-Turano-Mediterranean (Eu-T-M), Mediterranean (M), Palearctic (P), Saharo-Sindian (S-S), Sibero-European (Sb-E), Subcosmopolitan (Sc), Turano-Anatolian (T-A), Turano-East Mediterranean (T-EM), Turano-European (T-E), Turano-Mediterranean (T-M), Turano-Sindo-Mediterranean (T-S-M), Turano-Sindian (T-S), Turanian (Tr), West Palearctic (WP).

Mediterranean		**European**	
		Ceraleptus lividus Stein, 1858	Eu
Anoplocerus elevatus (Fieber, 1861)	T-M	*Coriomeris alpinus* (Horváth, 1895)	Eu
Anoplocerus luteus (Fieber, 1861)	T-M	*Spathocera laticornis* (Schilling, 1829)	Eu
Arenocoris waltlii (Herrich-Schaeffer, 1835)	T-M	*Nemocoris fallenii* Sahlberg, 1848	Sb-Eu
Centrocoris spiniger (Fabricius, 1781)	T-M	*Bathysolen nubilus* (Fallén, 1807)	Sb-Eu
Centrocoris variegatus Kolenati, 1845	T-M	*Coriomeris scabricornis scabricornis* (Panzer, 1805)	Sb-Eu
Ceraleptus obtusus (Brullé, 1839)	T-M	*Spathocera dalmanii* (Schilling, 1829)	Sb-Eu
Coriomeris hirticornis (Fabricius, 1794)	T-M	*Bothrostethus annulipes* (Herrich-Schaeffer, 1835)	T-Eu
Coriomeris vitticollis Reuter, 1900	T-M	*Gonocerus acuteangulatus* (Goeze, 1778)	T-Eu
Gonocerus juniperi Herrich-Schaeffer, 1839	T-M	**Turanian**	
Spathocera lobata (Herrich-Schaeffer, 1840)	T-M	*Ceraleptus sartus* Kiritshenko, 1912	Tr
Arenocoris intermedius (Jakovlev, 1883)	T-S-M	*Gonocerus patellatus* Kiritshenko, 1916	Tr
Phyllomorpha lacerata Herrich-Schaeffer,1835	T-EM	*Spathocera tenuicornis* Jakovlev, 1883	Tr
Coriomeris affinis (Herrich-Schaeffer, 1839)	M	*Coriomeris subglaber* Horváth, 1917	T-A
Gonocerus insidiator (Fabricius, 1787)	M	**Others**	
Haploprocta sulcicornis (Fabricius, 1794)	M	*Arenocoris latissimus* Seidenstücker, 1960	A-C
Loxocnemis dentator (Fabricius, 1794)	M	*Haploprocta umbrina* Jakovlev, 1883	A-C
Phyllomorpha laciniata (Villers, 1789)	M	*Urartucoris ermolenkoi* P.V. Putshkov, 1979	A-C
Plinachtus imitator (Reuter, 1891)	M	*Cercinthus griseus* (Fieber, 1861)	B
Prionotylus brevicornis (Mulsant & Rey, 1852)	M	*Coriomeris armeniacus* Tshernova, 1978	C
Strobilotoma typhaecornis (Fabricius, 1803)	M	*Coriomeris validicornis* Jakovlev, 1904	C
Enoplops disciger (Kolenati, 1845)	E-M	*Centrocoris volxemi* (Puton, 1878)	T-S
Spathocera tuberculata Horváth, 1882	E-M	*Coriomeris pallidus* Reuter, 1900	T-S
Arenocoris fallenii (Schilling, 1829)	Eu-M	*Centrocoris degener* (Puton, 1874)	S-S
Ceraleptus gracilicornis (Herrich-Schaeffer,1835)	Eu-M	*Coreus marginatus marginatus* (Linnaeus, 1758)	WP
Enoplops scapha (Fabricius, 1794)	Eu-M	*Syromastus rhombeus* (Linnaeus, 1767)	P
Coriomeris denticulatus (Scopoli, 1763)	Eu-T-M	*Leptoglossus occidentalis* Heidemann, 1910	Sc

Discussion

The western Blacksea subregion extending to Kızılcahamam is a well watered area and has a moist climate. Analysis of a small set of Heteroptera species recorded from this region by Hoberlandt (1956), revealed that about 40% of species recorded in this subregion had European or Sibero-European distribution. Hence, discovery of another Sibero-European species from this subregion is expected. Indeed, this new record highlights the possibility that there may be futher

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Heteropteran species of European origin distributing in Anatolia, especially Northern regions, that remain to be discovered. A potential candidate would be, *Ulmicola spinipes* (Fallén, 1807), another Pseudophloeini with typical Sibero-European distribution that has similar ecology with *N. fallenii* (Moulet 1995). Therefore, future studies conducted in the Northern part of Central Anatolian region, an area that is poorly studied, hold great potentials for discovery of new Heteroptera species for the fauna of Turkey.

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Short Note

First record of *Zelus renardii* Kolenati, 1857 (Hemiptera: Heteroptera: Reduviidae: Harpactorinae) in Bulgaria

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ABSTRACT: The first record of *Zelus renardiii* Kolenati, 1857 (Hemiptera: Heteroptera: Reduviidae: Harpactorinae) for Bulgaria is reported. This record extends the known European distribution of the species.

KEYWORDS: *Zelus renardii*, first record, distribution, Bulgaria, Mediterranean Region.

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Zelus renardii Kolenati, 1857 (Hemiptera: Heteroptera: Reduviidae: Harpactorinae) is a highly invasive Nearctic assasin bug which has colonized several European countries. Recently, Kment & van der Heyden (2022) published a list of the known distribution of *Z. renardii* in Europe.

In addition to that list, the first record of *Z. renardii* in Bulgaria can be reported: On 01.10.2022, a female specimen was found and photographed by Galin Ivanov in the city of Burgas, located at the Burgas Bay on the western coast of the Black Sea (Fig. 1). Several photographs of the specimen were uploaded to the online database iNaturalist (Ivanov, 2022).

This record from Bulgaria extends the known European distribution of *Z. renardii* from the eastern Mediterranean Region northeastward.

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Figure 1. *Zelus renardii* Kolenati, 1857, female (with prey), Burgas, Bulgaria, 01.10.2022. (Photo: Galin Ivanov).

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Research Article

Heteroptera (Hemiptera) Species Collected by Light Trap in Diyarbakır (Türkiye)

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ABSTRACT: As a result of the evaluation of the material collected by Robinson light trap in Diyarbakır Province, Sur district located in the south-east Türkiye between May−September 2015, 56 species belonging to 13 families of Heteroptera were determined. Among these species, *Camptocera glaberrima* (Walker, 1872), *Nysius cymoides* (Spinola, 1837), *Reduvius ciliatus* Jakovlev, 1879, *Megalonotus colon* Puton, 1874, *Tropistethus lanternae* Linnavuori, 1960, *Sigara lateralis* (Leach, 1817), *Beosus quaripunctatus* (Müller, 1766) and *Geotomus elongatus* (Herrich-Schaeffer, 1840) are common species. In addition, Heteroptera species previously detected in light trap studies in Türkiye are given in a table for comparison purposes. *Mecidea lindbergi* Wagner, 1954 is recorded for the second time from Türkiye.

KEYWORDS: Heteroptera, light trap, Diyarbakır, Türkiye

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INTRODUCTION

Light is attractive to some Heteroptera species as well as to many insect groups. In Türkiye, there are a few studies on Heteroptera obtained by use of light traps. The first of these is the study published by Hoberlandt (1961) in which 37 species were identified and this study is based on the materials collected by F. S. Bodenheimer from Ankara between 1940-1941. Later, Önder & Adıgüzel (1979) identified 87 species belonging to 13 families in the study in Diyarbakır.

Following this, Önder et al. (1981) determined 155 species belonging to 15 families as a result of the evaluation of the material collected with light traps in 5 provinces (İstanbul, Kocaeli, Bursa, Sakarya and Bolu) in northwestern Anatolia. Önder et al. (1984) determined 128 species belonging to 12 families obtained with light traps in Edirne province of Thrace Region, between 1978–1981.Yıldırım et al. (1999) determined 57 heteropteran species belonging to 5 families in the study in Erzurum province, in the eastern Türkiye. And finally, Tezcan et al. (2010) recorded 35 species belonging to 8 families collected by light trap in cherry orchards in İzmir of the western Anatolian province.

Light traps, which are derived from the attractive effect of light on insects, have been used by entomologists as an effective collecting method for long time, especially for some groups or species. In this study, Heteroptera samples collected by light trap in Diyarbakır were identified and also Heteroptera species that were detected with the sampling method by light trap in Türkiye so far were shown on a table. We believe that this study will give an idea to researchers working on Heteroptera that the use of light traps will be beneficial, especially to collect some families or species.

MATERIALS AND METHODS

This study was conducted with Robinson type light trap at Dicle University, Faculty of Agriculture Campus in Diyarbakır, Sur district (667 m, 37°53'20.5"N 40° 16'18.6"E) between May and September of 2015 year. 20 W Philips lamp was used in the light trap. The light trap was placed approximately 90 cm above the ground in the campus area (Figure 1) and was checked until mid-September.

Heteroptera samples caught by this method were preserved in alcohol tubes. When the habitat characteristics of the study area take into consideration, it is seen that there are false acacia, pine, apricot and various fruit trees, vineyards and agricultural lands planted for trial purposes (Figure 2). It is also located in approximately 2 km from the Dicle (Tigris) River.

A list of species, which includes data belonging collection dates and individual numbers, obtained in this study was given in Table 1. Furthermore, the Heteroptera species list, which was detected in previous studies conducted with light traps in Türkiye, was presented in Table 2.

RESAULTS

ANTHOCORIDAE

***Anthocoris visci* Douglas, 1889**

16.07.2015, 1♀.

ARTHENEIDAE

***Holcocranum saturejae* (Kolenati, 1845)**

06.08.2015, 2 ♀♀.

BILISSIDAE

***Ischnodemus caspius* Jakovlev, 1871**

09.07.2015, 3 ♀♀; 24.07.2015, 1 ♀.

CORIXIDAE

***Sigara lateralis* (Leach, 1817)**

02.07.2015, 28 ♀♀, 20 ♂♂; 09.07.2015, 9 ♀♀, 6 ♂♂; 16.07.2015, 5 ♀♀, 8 ♂♂; 24.07.2015, 21 ♀♀, 20 ♂♂; 30.07.2015, 1 ♂; 20.08.2015, 1 ♂; 26.08.2015, 19 ♀♀, 19 ♂♂; 17.09.2015, 5 ♀♀.

CYDNIDAE

***Byrsinus pilosulus* (Klug, 1845)**

20.08.2015, 1♀.

***Geotomus elongatus* (Herrich-Schaeffer, 1840)**

09.07.2015, 6 ♀♀, 5 ♂♂; 16.07.2015, 2 ♀♀, 2 ♂♂; 24.07.2015, 1 ♀, 5 ♂♂; 15.08.2015, 1 ♀; 26.08.2015, 3 ♀♀, 3 ♂♂.

***Macroscytus brunneus* (Fabricius, 1803)**

16.07.2015, 2 ♀♀; 30.07.2015, 2 ♀♀, 1 ♂; 06.08.2015, 1 ♀, 1 ♂; 20.08.2015, 3 ♀♀, 2 ♂♂.

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LYGAEIDAE

Nysius cymoides **(Spinola, 1837)**

21.05.2015, 7 ♀♀, 3 ♂♂; 02.07.2015, 14 ♀♀, 10 ♂♂; 09.07.2015 numerous; 16.07.2015, numerous; 24.07.2015, numerous; 30.07.2015, numerous; 06.08.2015, numerous; 15.08.2015, 25 ♀♀, 10 ♂; 26.08.2015, 128 ♀♀, 64 ♂♂.

MIRIDAE

Adelphocoris quadripunctatus **(Fabricius, 1794)**

24.07.2015, 1 ♂.

Alloeotomus cyprius **(Wagner, 1953)**

02.07.2015, 1 ♀.

Campylomma diversicorne **Reuter, 1888**

02.07.2015, 1 ♂; 15.08.2015, 5 ♀♀, 3 ♂♂.

Campylomma verbasci **Poppius, 1914**

28.05.2015, 3 ♀♀, 2 ♂♂.

Creontiodes pallidus **(Rambur, 1839)**

15.08.2015, 1 ♂.

Deraeocoris punctulatus **(Fallén, 1807)**

28.05.2015, 1 ♀.

Deraeocoris rutilus **(Herrich-Schaeffer, 1838)**

20.08.2015, 3 ♀♀, 3 ♂♂.

Deraeocoris serenus **(Douglas & Scott, 1868)**

28.05.2015, 2 ♀♀, 3 ♂♂; 06.08.2015, 3 ♀♀, 6 ♂♂; 26.08.2015, 1 ♀.

Dicyphus albonasatus **Wagner, 1951**

02.07.2015, 1 ♀.

Lygus pratensis **(Linnaeus, 1758)**

21.05.2015, 6 ♀♀, 5 ♂♂; 28.05.2015, 1 ♀; 02.07.2015, 1 ♀; 09.07.2015, 1 ♀; 16.07.2015, 1 ♀; 24.07.2015, 9 ♀♀, 2 ♂♂; 26.08.2015, 1 ♀.

Lygus gemellatus **(Herrich-Schaeffer, 1835)**

24.07.2015, 6 ♀♀, 3 ♂♂; 26.08.2015, 2 ♀♀, 1 ♂.

Macrolophus pygmaeus **(Rambur, 1839)**

28.05.2015, 1 ♀, 1 ♂; 02.07.2015, 1 ♂; 06.08.2015 1 ♂.

Oncotylus anatolicus **Wagner, 1969**

28.05.2015, 2 ♀♀, 3 ♂♂.

Oncotylus nigricornis **Saunders, 1876**

28.05.2015, 9 ♀♀, 6 ♂♂; 02.07.2015, 3 ♀♀, 2 ♂♂.

Oncotylus viridiflavus **(Goeze, 1778)**

28.05.2015, 1 ♀, 4 ♂♂.

Stenodema turanica **Reuter, 1904**

16.07.2015, 1 ♂.

Stenodema virens **(Linnaeus, 1767)**

30.07.2015, 1 ♀, 06.08.2015, 1 ♂.

Trigonotylus pulchellus **(Hahn, 1834)**

02.07.2015, 2 ♀♀, 1 ♂; 09.07.2015, 12 ♀♀, 4 ♂♂.

NABIDAE

Nabis ferus **(Linnaeus, 1758)**

24.07.2015, 3 ♀♀; 30.07.2015, 5 ♀♀, 2♂♂; 06.08.2015, 2♂♂; 26.08.2015, 1 ♂.

Nabis pseudoferus **Remane, 1949**

16.07.2015, 2♀♀, 3 ♂♂.

Nabis rugosus **(Linnaeus, 1758)**

24.07.2015, 1 ♂.

NOTONECTIDAE

Notonecta viridis **Delcourt, 1909**

16.07.2015, 1 ♂.

PENTATOMIDAE

Acrosternum breviceps **(Jakovlev, 1889)**

30.07.2015, 2 ♀♀; 06.08.2015, 1 ♀.

Mecidea lindbergi **Wagner, 1954**

02.07.2015, 1 ♀; 20.08.2015, 1 ♂; 26.08.2015, 1 ♀.

Stagonomus bipunctatus **(Linnaeus, 1758)**

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02.07.2015, 1♀.

REDUVIIDAE

***Ectomocoris caucasicus* Linnavuori, 1972**

24.07.2015, 1 ♀; 20.08.2015, 2 ♀♀; 26.08.2015 2 ♂♂, 1 ♀.

***Ectomocoris ululans* (Rossi, 1790)**

24.07.2015 1 ♂.

***Nagusta goedeli* (Kolenati, 1857)**

09.07.2015, 1 ♀.

***Oncocephalus squalidus* (Rossi, 1790)**

21.05.2015, 1 ♀.

***Pasira marinadolina* Putshkov & Moulet, 2003**

21.05.2015, 1 ♀.

***Peirates hybridus* (Scopoli, 1763)**

30.07.2015, 1 ♀.

***Reduvius ciliatus* Jakovlev, 1879**

28.05.2015, 1 ♂; 02.07.2015, 4 ♀♀, 3 ♂♂; 09.07.2015, 2 ♂♂; 16.07.2015, 1 ♀, 5 ♂♂; 24.07.2015, 2 ♀♀, 4 ♂♂; 30.07.2015, 2 ♀♀, 2 ♂♂; 06.08.2015, 1 ♀, 2 ♂♂; 15.08.2015, 6 ♀♀, 5 ♂♂; 26.08.2015, 5 ♀♀, 10 ♂♂, 17.09.2015, 4 ♀♀, 6 ♂♂.

***Reduvius iracundus* (Poda, 1761)**

20.08.2015, 1♀, 1 ♂.

RHOPALIDAE

***Liorhyssus hyalinus* (Fabricius, 1794)**

09.07.2015, 1 ♀.

***Rhopalus parampunctatus* Schilling, 1829**

24.07.2015, 1 ♀.

RHYPAROCHROMIDAE

***Beosus quadripunctatus* (Müller, 1766)**

28.05.2015, 3 ♀♀, 2 ♂♂; 02.07.2015, 5 ♀♀, 4 ♂♂; ♂; 09.07.2015, 3 ♀♀, 3 ♂♂; 24.07.2015, 3 ♀♀, 3 ♂♂; 30.07.2015 1 ♂; 06.08.2015, 2 ♀♀, 3 ♂♂; 17.09.2015 1 ♂.

Camptocera glaberrima (Walker, 1872)

02.07.2015, 3 ♀♀; 09.07.2015, numerous; 16.07.2015, 16 ♀♀, 8 ♂♂; 24.07.2015, numerous; 30.07.2015, numerous; 06.08.2015, numerous; 15.08.2015, 1 ♀, 1 ♂; 20.08.2015, 17 ♀♀, 8 ♂♂; 26.08.2015, 4 ♀♀, 2 ♂♂.

***Emblethis verbasci* (Fabricius, 1803)**

24.07.2015, 2 ♂♂.

***Ischnopeza pallipes* Puton, 1892**

30.07.2015, 2 ♂♂.

***Lethaeus cribratissimus* (StåI, 1859)**

24.07.2015, 1 ♀.

***Lethaeus nitidus* (Douglas & Scott, 1868)**

09.07.2015, 1 ♂.

***Megalonotus colon* Puton, 1874**

02.07.2015, 1 ♂; 09.07.2015, 5 ♀♀, 1 ♂; 24.07.2015, 3 ♀♀, 1 ♂; 30.07.2015, 8 ♀♀, 14 ♂♂; 06.08.2015, 1 ♀, 3 ♂♂; 15.08.2015, 1 ♀, 2 ♂♂; 20.08.2015, 2 ♀♀; 26.08.2015, 1 ♀.

***Megalonotus maximus* (Puton, 1895)**

24.07.2015, 1♀; 30.07.2015, 1 ♀.

***Megalonotus sabulicola* (Thomson, 1870)**

06.08.2015, 2 ♀♀, 1 ♂.

***Neurocladus brachiidens* (Dufour, 1851)**

09.07.2015, 3 ♀♀; 4 ♂♂; 16.07.2015, 2 ♀♀; 24.07.2015, 2 ♀♀; 30.07.2015, 2 ♂♂.

***Peritrechus flavicornis* Jakovlev, 1877**

09.07.2015, 1 ♂; 30.07.2015, 3 ♀♀, 5 ♂♂; 06.08.2015, 3 ♂♂.

***Tropistethus lanternae* Linnavuori, 1960**

09.07.2015, 14 ♀♀, 5 ♂♂; 16.07.2015, 1 ♀, 2 ♂♂; 24.07.2015, 1 ♀, 1 ♂; 30.07.2015, 5♀♀, 2 ♂♂; 26.08.2015, 1 ♀, 1 ♂; 17.09.2015, 3 ♀♀.

***Xanthochilus saturnius* (Rossi, 1790)**

24.07.2015 1 ♂; 06.08.2015 2 ♀♀, 1♂; 20.08.2015, 1 ♀.

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DISCUSSION

As a result of the evaluation of Heteroptera samples collected with Robinson light trap between May and September 2015 in Diyarbakır, Sur district, a total of 56 species from 13 families were identified. The distribution of determined species in families is as follows: Anthocoridae 1 species, Artheneidae 1 species, Bilissidae 1 species, Corixidae 1 species, Cydnidae 3 species, Lygaeidae 1 species, Miridae 18 species, Nabidae 3 species, Notonectidae 1 species, Pentatomidae 3 species, Reduviidae 8 species, Rhopalidae 2 species and Rhyparochromidae 13 species (Table 1). Considering that the most captured species in the light trap belong to the families Miridae, Rhyparochromidae and Reduviidae, respectively, these numbers coincide with the general species numbers of the families.

Among the detected species, *Reduvius ciliatus* (Reduviidae) is the most sensitive to light, as it was detected in 10 of the 12 collection periods. Similarly, *Camptocera glaberrima* (Rhyparochromidae) and *Nysius cymoides* (Lygaeidae) were found in 9 of 12 collection periods. In addition, these two species have very high numbers of specimens, especially in the period between 9 July and 6 August. Other common species are *Megalonotus colon*, *Tropistethus lanternae* and *Beosus quaripunctatus* (all Rhyparochromidae), *Sigara lateralis* (Corixidae) and *Geotomus elongatus* (Cydnidae).

Considering the results of this study and the other light traps studies conducted on Heteroptera in Türkiye (Hoberlandt, 1961; Önder & Adıgüzel, 1979; Önder et al., 1981, 1984; Yıldırım et al. 1999 and Tezcan et al., 2010) 305 species belonging to 25 families from Heteroptera are listed (Table 2.). When these species take into account, some of them are remarkable in that they come to the light traps.

Considering the results of the present study and 6 studies conducted previously, *Campylomma verbasci*, *Deraeocoris serenus*, *Lygus pratensis* and *Macrolophus pygmaeus* species were found in 6 of 7 studies; *Nysius cymoides, N. graminicola graminicola*, *Adelphocoris lineolatus*, *Nanopsallus carduellus*, *Oncotylus setulosus*, *Oncotylus viridiflavus*, *Polymerus cognatus*, *Nabis pseudoferus* and *Peirates hybridus* in 5 studies and *Macroscytus brunneus*, *Campylomma diversicorne*, *Charagochilus gyllenhalii*, *Megalocoleus molliculus*, *Plagiognathus bipunctatus*, *P. fulvipennis*, *Polymerus vulneratus*, *Trigonotylus pulchellus*, *T. ruficornis*, *Tuponia hippophaes*, *Acrosternum millierei*, *Eysarcoris ventralis*, *Beosus quadripunctatus* and *Lamprodema maura* in 4 studies.

Among these common species, *Deraeocoris serenus*, *Lygus pratensis* ve *Macrolophus pygmaeus, Nysius cymoides, Oncotylus viridiflavus*, *Macroscytus brunneus*, *Nabis pseudoferus*, *Peirates hybridus*, *Campylomma diversicorne*, *Trigonotylus pulchellus*, *Eysarcoris ventralis* and *Beosus quadripunctatus* were also identified in the present study.

Unlike other light trap studies in Türkiye, *Anthocoris visci*, *lschnodemus caspius*, *Sigara lateralis*, *Byrsinus pilosulus*, *Adelphocoris quadripunctatus, Alloeotomus cyprius*, *Creontiodes pallidus*, *Oncotylus anatolicus*, *O. nigricornis*, *Nabis ferus*, *Notonecta viridis*, *Mecidea lindbergi*, *Ectomocoris caucasicus*, *E. ululans*, *Nagusta goedeli*, *Pasira marinadolina*, *Rhopalus parampunctatus*, *Ischnopeza pallipes*, *Lethaeus cribratissimus*, *L. nitidus*, *Megalonotus colon*, *M. maximus*, *Neurocladus brachiidens*, *Peritrechus flavicornis*, *Tropistethus lanternae* and *Xanthochilus saturnius* are Heteroptera species caught in light trap for the first time in this study.

In addition, *Mecidea lindbergi* previously recorded from Siirt by Özgen & Çerçi (2018) from Türkiye, was recorded for the second time from Türkiye in this study. Among other recorded species, *Oncotylus anatolicus, Acrosternum breviceps, Pasira marinadolina, Reduvius ciliatus, Lethaeus nitidus, Megalonotus maximus, Tropistethus lanternae* and *Peritrechus flavicornis* are species with rare distribution.

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Figure 1. Satellite image of the research area (Google earth) (yellow star marks the spot where the light trap was placed)

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Figure 2. View of the research area from different angles

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Table 1. Heteroptera species list with collection dates and individual numbers obtained in this study. (N:numerous)

Species/Datum	21.05	28.05	02.07	09.07	16.07	24.07	30.07	06.08	15.08	20.08	26.08	17.09
ANTHOCORIDAE												
Anthocoris visci Douglas, 1889					1							
ARTHENEIDAE												
Holcocranum saturejae (Kolenati, 1845)								2				
BILISSIDAE												
Ischnodemus caspius Jakovlev, 1871				3		1						
CORIXIDAE												
Sigara lateralis (Leach, 1817)			48	15	13	41	1			1	38	5
CYDNIDAE												
Byrsinus pilosulus (Klug, 1845)										1		
Geotomus elongatus (Herrich-Schaeffer, 1840)				11	4	6			1		6	
Macroscytus brunneus (Fabricius, 1803)					2		3	2		5		
LYGAEIDAE												
Nysius cymoides (Spinola 1834)	10		24	61	N	N	N	N	3		192	
MIRIDAE												
Adelphocoris quadripunctatus (Fabricius, 1794)						1						
Alloeotomus cyprius (Wagner, 1953)			1									
Campylomma diversicorne Reuter, 1878			1						8			
Campylomma verbasci Poppius, 1914		5										
Creontiodes pallidus (Rambur, 1839)									1			

Table 1. Continued

Deraeocoris punctulatus (Fallén 1807)		1										
Deraeocoris rutilus (Herrich-Schaeffer, 1838)										6		
Deraeocoris serenus (Douglas & Scott, 1868)		5						9			1	
Dicyphus albonasatus Wagner, 1951			1									
Lygus pratensis (Linnaeus, 1758)	11	1	1	1	1	11					1	
Lygus gemellatus (Herrich-Schaeffer, 1835)						9					3	
Macrolophus pygmaeus (Rambur, 1839)		2	1					1				
Oncotylus anatolicus Wagner, 1969		5										
Oncotylus nigricornis Saunders, 1876		15	5									
Oncotylus viridiflavus (Goeze, 1778)		5										
Stenodema turanica Reuter, 1904					1							
Stenodema virens (Linnaeus, 1767)							1	1				
Trigonotylus pulchellus (Hahn, 1834)			3	16								
NABIDAE												
Nabis ferus (Linnaeus, 1758)						3	7	2			1	
Nabis pseudoferus Remane, 1949					5							
Nabis rugosus (Linnaeus, 1758)						1						
NOTONECTIDAE												
Notonecta viridis Delcourt, 1909						1						
PENTATOMIDAE												
Acrosternum breviceps (Jakovlev, 1889)							2	1				
Mecidea lindbergi Wagner, 1954			1							1	1	
Stagonomus bipunctatus (Linnaeus, 1758)			1									

Table 1. Continued

REDUVIIDAE												
Ectomocoris caucasicus Linnavuori, 1972						1				2	3	
Ectomocoris ululans (Rossi, 1790)						1						
Nagusta goedeli (Kolenati, 1857)				1								
Oncocephalus squalidus (Rossi, 1790)	1											
Pasira marinadolina Putshkov & Moulet, 2003	1											
Peirates hybridus (Scopoli, 1763)							1					
Reduvius ciliatus Jakovlev, 1879		1	7	2	6	6	4	3	11		15	10
Reduvius iracundus (Poda, 1761)										2		
RHOPALIDAE												
Liorhyssus hyalinus (Fabricius, 1794)				1								
Rhopalus parampunctatus Schilling, 1829						1						
RHYPAROCHROMIDAE												
Beosus quadripunctatus (Muller, 1766)		5	9	6		6	1	5				1
Camptocera glaberrima (Walker 1872)			3	N	24	N	N	N	2	25	6	
Emblethis verbasci (Fabricius, 1803)						2						
Ischnopeza pallipes Puton, 1892							2					
Lethaeus cribratissimus (Stål, 1859)						1						
Lethaeus nitidus (Douglas & Scott, 1868)				1								
Megalonotus colon Puton, 1874			1	6		4	22	4	3	2	1	

Table 2. Heteroptera species list obtained in previous light trap studies and this study in Türkiye

Heteroptera species / Studies	Hoberlandt (1961)	Önder & Adıgüzel (1979)	Önder et al. (1981)	Önder et al. (1984)	Yıldırım et al. (1999)	Tezcan et al. (2010)	This study
ANTHOCORIDAE							
Anthocoris visci Douglas, 1889							+
Lyctocoris dimidiatus (Spinola, 1837)			+	+			
Orius horvathi (Reuter, 1884)				+			
Orius laevigatus (Fieber, 1860)		+		+			
Orius majusculus (Reuter, 1879)				+			
Orius minutus (Linnaeus, 1758)			+				
Orius niger (Wolff, 1811)		+		+			
Orius laticollis (Reuter, 1884)		+					
ARTHENEIDAE							
Artheneis balcanica (Kormilev, 1938)			+				
Holcocranum saturejae (Kolenati, 1845)			+	+			+
BERYTIDAE							
Gampsocoris punctipes (Germar, 1822)			+				
BILISSIDAE							
Ischnodemus caspius Jakovlev, 1871							+
COREIDAE							
Centrocoris variegatus Kolenati, 1845						+	
Coreus marginatus (Linnaeus, 1758)						+	
Coriomeris hirticornis (Fabricius, 1794)		+					

Table 2. Continued

CORIXIDAE							
Corixa affinis Leach, 1817		+					
Corixa panzeri Fieber, 1848					+		
Corixa punctata (Illiger, 1807)					+		
Heliocorisa vermiculata (Puton, 1874)			+?				
Hesperocorixa linnaei (Fieber, 1848)			+				
Hesperocorixa parallela (Fieber, 1860)			+				
Paracorixa concinna (Fieber, 1848)				+			
Sigara lateralis (Leach, 1817)							+
Sigara nigrolineata (Fieber, 1848)			+	+			
Sigara striata (Linnaeus, 1758)					+		
CYDNIDAE							
Byrsinus pilosulus (Klug, 1845)							+
Canthophorus dubius (Scopoli, 1763)					+		
Geotomus elongatus (Herrich-Schaeffer, 1840)		+				+	+
Macroscytus brunneus (Fabricius, 1803)		+	+			+	+
Sehirus morio (Linnaeus, 1761)				+			
CYMIDAE							
Cymus claviculus (Fallén, 1807)			+				
Cymus melanocephalus Fieber, 1861				+			
GEOCORIDAE							
Geocoris arenarius (Jakovlev, 1867)		+					
Geocoris megacephalus (Rossi, 1790)		+					

Table 2. Continued

LEPTOPODIDAE							
Patapius spinosus (Rossi, 1790)		+					
LYGAEIDAE							
Arocatus longiceps Stål, 1872				+			
Horvathiolus superbus (Pollich, 1781)		+					
Kleidocerys ericae (Horváth, 1908)			+				
Kleidocerys resedae resedae (Panzer, 1797)					+		
Nysius cymoides (Spinola 1834)	+	+	+	+			+
Nysius graminicola graminicola (Kolenati, 1845)		+	+	+	+	+	
Nysius immunis (Walker, 1872)		+					
Nysius helveticus (Herrich-Schaeffer, 1850)		+				+	
Nvsius senecionis (Schilling, 1829)		+	+		+		
Nysius thymi thymi (Wolff, 1804)		+			+		
Ortholomus carinatus (Lindberg, 1932)		+					
MICRONECTIDAE							
Micronecta griseola Horváth, 1899				+			
Micronecta scholtzi (Fieber, 1860)			+				
MIRIDAE							
Acrorhinium conspersum Noualhier, 1895	+	+					
Adelphocoris bimaculicollis Lindberg, 1948			+				
Adelphocoris insignis Horváth, 1898				+			
Adelphocoris lineolatus (Goeze, 1778)	+		+	+	+	+	
Adelphocoris seticornis (Fabricius, 1775)			+	+			

Table 2. Continued

Adelphocoris quadripunctatus (Fabricius, 1794)							+
Adelphocois vandalicus (Rossi, 1790)			+	+			
Agnocoris reclairei (Wagner, 1949)				+			
Agnocoris rubicundus (Fallén, 1807)			+				
Alloeotomus cyprius (Wagner, 1953)							+
Alloeotomus gothicus (Fallén, 1807)					+		
Amblytylus concolor Jakovlev 1877	+		+	+			
Amblytylus luridus Hoberlandt, 1961	+						
Amblytylus nasutus (Kirschbaum, 1856)			+	+			
Atomoscelis onusta (Fieber, 1861)	+		+				
Atractotomus kolenatii (Flor, 1860)			+?				
Blepharidopterus angulatus (Fallén, 1807)	+			+			
Blepharidopterus dubius Wagner, 1954			+?				
Brachycoleus decolor Reuter, 1887	+						
Brachycoleus steini Reuter, 1877			+	+			
Brachynotocoris puncticornis Reuter, 1880		+	+		+		
Calocoris nemoralis (Fabricius, 1787)			+				
Campylomma annulicorne (Signoret, 1865)		+		+			
Campylomma diversicorne Reuter, 1878		+	+	+			+
Campylomma verbasci Meyer-Dür, 1843)	+	+		+	+		+
Charagochilus gyllenhalii (Fallén, 1807)			+	+	+	+	
Closteratomus annulus (Brullé, 1832)			+				
Closteratomus norvegicus (Gmelin, 1790)			+	+			

Table 2. Continued

Closterotomus picturatus (Reuter, 1896)			+				
Cyllecoris histrionius (Linnaeus, 1767)			+	+			
Cyphodema instabilis (Lucas, 1849)				+			
Compsidolon pumilum (Jakovlev, 1876)	+		+				
Compsidolon salicellum (Herrich-Schaeffer, 1841)			+				
Creontiodes pallidus (Rambur, 1839)							+
Deraeocoris lutescens (Schilling, 1837)			+	+			
Deraeocoris pallens (Reuter, 1904)		+				+	
Deraeocoris punctulatus (Fallén 1807)	+						+
Deraeocoris rutilus (Herrich-Schaeffer, 1838)		+	+	+			+
Deraeocoris ruber (Limneus, 1758)			+				
Deraeocoris serenus (Douglas & Scott, 1868)		+	+	+	+	+	+
Deraeocorts scutellaris (Fabricius, 1794)					+		
Deraeocoris trifasciatus (Linnaeus, 1767)			+				
Deraeocoris ventralis Reuter, 1904			+	+			
Dicyphus albonasatus Wagner, 1951		+	+				+
Dicyphus cerastii Wagner, 1951				+			
Dicyphus errans (Wolff, 1804)			+				
Ectagela guttala Schmidt, 1939			+				
Globiceps sordidus sordidus Reuter, 1876			+		+		
Globiceps flavomaculatus (Fabricius, 17 94							
Globiceps horvathi Reuter, 1912				+			
Hallodapus rufescens Burmeister, 1835)					+		

Table 2. Continued

Hallodapus suturalis (Herrich-Schaeffer, 1837)				+		+	
Heterocordylus genistae (Scopoli, 1763)				+			
Isometopus intrusus (Herrich-Schaeffer, 1835)			+				
Lepidargyrus ancorifer (Fieber, 1858)		+	+				
Lepidargyrus seidenstueckeri (Wagner, 1956)			+				
Leptopterna dolabrota (Linnaeus, 1758)					+		
Leptopterna ferrugata (Fallén, 1807)				+			
Liocoris tripustulatus (Fabricius, 1781)			+	+			
Lopus decolor decolor (Fallén, 1807)				+?			
Lygus gemellatus (Herrich-Schaffer, 1835)	+			+			+
Lygus pratensis (Linnaeus, 1758)		+	+	+	+	+	+
Lygus rugulipennis Poppius, 1911			+	+	+		
Macrolophus costalis Fieber, 1858			+	+	+		
Macrolophus glaucescens Fieber, 1858			+?				
Macrolophus melanotoma (A. Costa, 1853)	+		+				
Macrolophus pygmaeus (Rambur, 1839)	+	+	+	+	+		+
Macrotylus herrichi (Reuter, 1873)					+		
Macrotylus horvathi Reuter, 1876)			+	+			
Macrotylus paykullii (Fallén, 1807)				+			
Macrotylus solilartus Meyer-Dür, 1843)			+				
Malacocoris chlorizans (Panzer, 1794)			+				
Maurodactylus albidus (Kolenati, 1845)		+?					
Megalocoleus dissimilis (Reuter, 1876)	+						

Table 2. Continued

Megalocoleus exsanguis (Herrich-Schaeffer, 1835)	+						
Megalocoleus molliculus (Fallén, 1807)		+	+	+	+		
Megalocoleus tanaceti (Fallén, 1807)				+			
Mimocoris rugicollis (A. Costa, 1853)			+	+			
Miridius quadrivirgatus (A. Costa, 1853)			+	+			
Nanopsallus carduellus (Horváth, 1888)	+	+	+	+	+		
Oncotylus anatolicus Wagner, 1969							+
Oncotylus nigricornis Saunders, 1876							+
Oncotylus pyrethri (Becker, 1864)					+		
Oncotylus setulosus (Herrich-Schaffer, 1839)	+	+	+	+	+		
Oncotylus viridiflavus (Goeze, 1778)		+	+	+	+		+
Oncotylus viridiflavus longipes Wagner, 1954	+						
Opisthotaenia fulvipes Reuter, 1901				+	+		
Orthocephalus saltator (Hahn, 1835)			+	+			
Orthops basalis (A. Costa, 1852)	+			+			
Orthops campestris (Linnaeus, 1758)			+	+			
Orthops kalmii (Linnaeus, 1758)		+	+	+	+		
Orthotylus beieri Wagner, 1942			+				
Orthotylus concolor (Kirschbaum, 1856)				+?			
Orthoglus cupressi Reuter, 1883				+			
Orthotylus flavosparsus (C.R. Sahlberg, 1841)		+	+	+	+		
Orthotylus marginalis Reuter, 1883			+	+			
Orthotylus minutus Jakovlev, 1877	+						

Table 2. Continued

Orthotylus moncreaffi (Douglas & Scott, 1874)			+	+			
Orthotylus obscurus Reuter, 1875					+?		
Orthotylus nassatus (Fabricius, 1787)	+		+	+	+		
Orthotllus prasinus (Fallén, 1826)				+			
Orthotylus tenellus (Fallén, 1807)			+?	+			
Orthotylus virescens Douglas & Scott, 1865)	+		+				
Orthotylus viridinervis (Kirschbaum, 1856)			+	+			
Pilophorus cinnamopterus (Kirschbaum, 1856)			+		+		
Pilophorus clavatus (Linnaeus, 1767)					+		
Pilophorus perplexus Douglas & Scott, 1875			+	+			
Phylus coryli (Linnaeus, 1758)			+				
Phylus melanocephalus (Linnaeus, 1767)			+	+			
Phytocoris austriacus Wagner, 1954			+				
Phytocoris chardoni Puton, 1887			+	+			
Phytocoris insignis Reuter, 1876						+	
Phytocoris loralis Wagner, 1976		+					
Phytocoris obliquoides Wagner, 1959					+		
Phytocoris parvulus Reuter, 1880			+				
Phytocoris pinihalepensis Lindberg,1948						+	
Phytocoris seidenstueckeri Wagner, 1955			+	+			
Phytocorts tiliae (Fabricius, 1777)					+		
Phytocoris ulmi (Linnaeus, 1758)			+				

Table 2. Continued

Plagiognathus bipunctatus Reuter, 1883		+	+	+	+		
Plagiognathus chrysanthemi (Wotff, 1804)			+		+		
Plagiognathus flavipes Reuter, 1875				+			
Plagiognathus fulvipennis (Kirschbaum, 1856)		+	+	+	+		
Plagiognathus raphani Wagner, 1963		+					
Polymerus asperulae (Fieber, 1861)			+?				
Polymerus cognatus (Fieber 1858)	+	+	+	+	+		
Polymerus holosericeus Hahn, 1831				+			
Polymerus palustris Reuter, 1907				+			
Polymerus unifasciatus (Fabricius, 1794)			+	+	+		
Polymerus vulneratus (Panzer, 1806)	+		+	+	+		
Psallus collaris (Wagner, 1975)			+				
Psallus lepidus Fieber, 1858		+					
Psallus ocularis (Mulsant & Rey, 1852)			+				
Psallus pardalis Seidenstücker, 1966				+			
Psallus perrisi (Mulsant & Rey, 1852)				+			
Psallus pinicola Reuter, 1875					+?		
Psallus quercicola (Reuter, 1904)				+			
Psallus quercus (Kirschbaum, 1856)			+				
Psallus variabilis (Fallén, 1807)			+				
Psallus varians varians (Herrich-Schaeffer, 1841)			+				
Pseudoloxops coccineus (Meyer-Dür, 1843)		+	+				
Reuteria marqueti Puton, 1875					+?		

Table 2. Continued

Rhabdomiris striatellus (Fabricius, 1794)			+				
Salicarus roseri (Herrich-Schaeffer, 1838)			+	+			
Saundersiella moerens Reuter, 187O			+				
Stenodema calcarata (Fallén, 1807)		+	+	+			
Stenodema laevigata (Linnaeus, 1758)			+				
Stenodema sericans (Fieber, 1861)			+				
Stenodema trispinosa Reuter, 1904	+				+		
Stenodema turanica Reuter, 1904		+			+		+
Stenodema virens (Linnaeus, 1767)			+	+			+
Stenotus binotatus (Fabricius, 1794)			+	+	+		
Stenoparia putoni Fieber, 1870	+						
Stethoconus pyri (Mella, 1869)			+				
Sthenarus rotermundi (Scholtz, 1847)				+			
Systellonotus triguttatus (Linnaeus, 1767)				+			
Taylorilygus apicalis (Fieber, 1861)		+		+	+		
Trigonotylus pulchellus (Hahn, 1834)		+	+	+			+
Trigonotylus ruficornis (Geoffroy, 1785)		+	+	+	+		
Trigonotylus tenuis Reuter, 1893	+			+			
Tuponia arcufera Reuter, 1879	+						
Tuponia brevirostris Reuter, 1883				+			
Tuponia dalmatina Wagner, 1955			+				
Tuponia hippophaes (Fieber, 1861)	+	+	+	+			
Tuponia mixticolor (A. Costa, 1862)			+				

Table 2. Continued

Tuponia montandoni Reuter, 1899				+			
Utopnia torquata (Puton, 1881)	+		+				
Zanchius alatanus Hoberlandt, 1956		+					
NABIDAE							
Himacerus mirmicoides (0. Costa, 1834)				+			
Nabis capsiformis Germar, 1838						+	
Nabis ferus (Linnaeus, 1758)							+
Nabis palifer Seidenstücker, 1954	+						
Nabis pseudoferus Remane, 1949		+	+	+		+	+
Nabis punctatus punctatus A. Costa, 1847					+		
Nabis rugosus (Linnaeus, 1758)		+	+				+
Nabis sareptanus Dohrn, 1862		+					
NOTONECTIDAE							
Notonecta viridis Delcourt, 1909							+
OXICARENIDAE							
Metopoplax origani (Kolenati, 1845)		+		+			
Oxycarenus pallens (Herrich-Schaeffer, 1850)		+					
PENTATOMIDAE							
Acrosternum breviceps (Jakovlev, 1889)		+					+
Acrosternum heegeri Fieber, 1861		+	+			+	
Acrosternum millierei (Mulsant & Rey, 1866)		+	+	+		+	
Apodiphus amygdali (Germar, 1817)		+				+	
Brachynema germarii (Kolenati, 1846)	+						

Table 2. Continued

Dolycoris baccarum (Linnaeus, 1758)			+			+	
Eurydema ornata (Linnaeus, 1758)				+			
Eysarcoris ventralis (Westwood, 1837)		+	+	+		+	
Mecidea lindbergi Wagner, 1954							+
Nezara viridula (Linnaeus, 1758)			+			+	
Peribalus strictus strictus (Fabricius, 1803)			+	+			
Piezodorus lituratus (Fabricius, 1794)			+				
Rhaphigaster nebulosa (Poda, 1761)			+			+	
Stagonomus bipunctatus (Linnaeus, 1758)							+
PYRRHOCORIDAE							
Scantius aegyptius aegyptius (Linnaeus, 1758)			+				
REDUVIIDAE							
Ectomocoris caucasicus Linnavuori, 1972							+
Ectomocoris ululans (Rossi, 1790)							+
Nagusta goedeli (Kolenati, 1857)							+
Oncocephalus acutangulus Reuter, 1882			+	+			
Oncocephalus squalidus (Rossi, 1790)			+	+			+
Oncocephalus thoracicus Fieber, 1861		+					
Pasira marinadolina Putshkov & Moulet, 2003							+
Peirates hybridus (Scopoli, 1763)		+	+	+		+	+
Pygolampis bidentata (Goeze, 1778)			+				
Reduvius ciliatus Jakovlev, 1879							+
Reduvius pallipes Klug, 1830		+				+	

Table 2. Continued

Reduvius personatus (Linnaeus, 1758)			+	+			
Rhynocoris iracundus (Poda, 1761)							+
RHOPALIDAE							
Brachycarenus tigrinus (Schilling, 1829)		+	+	+			
Chorosoma schillingii (Schilling, 1829)		+					
Liorhyssus hyalinus (Fabricius, 1794)		+	+				+
Rhopalus parumpunctatus Schilling, 1829							+
Stictopleurus subtomentosus (Rey, 1888)		+					
RHYPAROCHROMIDAE							
Beosus maritimus (Scopoli, 1763)		+					
Beosus quadripunctatus (Muller, 1766)		+		+		+	+
Camptocera glaberrima (Walker 1872)	+	+	+				+
Emblethis denticollis Horváth, 1878				+			
Emblethis verbasci (Fabricius, 1803)		+					+
Eremocoris fenestratus (Herrich-Schaeffer, 1839			+			+	
Graptopeltus validus (Horváth, 1875)				+			
Graptostethus servus (Fabricius 1787)						+	
Icus angularis Fieber, 1861						+	
Ischnopeza pallipes Puton, 1892							+
Lamprodema maura (Fabricius, 1803)		+	+	+		+	
Lethaeus cribratissimus (Stål, 1859)							+
Lethaeus lethierryi (Puton, 1869)		+					
Lethaeus nitidus (Douglas & Scott, 1868)							+

Table 2. Continued

Lethaeus picipes (Herrich-Schaeffer, 1850)		+					
Megalonotus colon Puton, 1874							+
Megalonotus longipilis (Puton, 1884)		+?					
Megalonotus maximus (Puton, 1895)							+
Megalonotus sabulicola (Thomson, 1870)				+			+
Megalonotus setosus Puton, 1874		+					
Melanocoryphus albomaculatus (Goeze, 1778)			+				
Neurocladus brachiidens (Dufour, 1851)							+
Pachybrachius capitatus (Horváth, 1882)			+				
Pachybrachius fracticollis (Schilling, 1829)		+					
Paromius gracilis (Rambur, 1839)						+	
Peritrechus angusticollis (R.F. Sahlberg, 1848)				+			
Peritrechus flavicornis Jakovlev, 1877							+
Peritrechus gracilicornis Puton, 1877		+	+	+			
Peritrechus meridionalis Puton, 1877			+	+			
Plinthisus ptilioides Puton, 1874			+	+			
Raglius alboacuminatus (Goeze, 1778)			+				
Remaudiereana annulipes (Baerensprung, 1859)			+			+	
Scolopostethus pictus (Schilling, 1829)			+			+	
Thaumastopus marginicollis (Lucas, 1849)				+			
Tropistethus fasciatus Ferrari 1874	+	+	+				
Tropistethus holosericus (Scholtz, 1846)		+					
Tropistethus lanternae Linnavuori, 1960							+
Xanthochilus minusculus (Reuter, 1885)		+					

Table 2. Continued

Xanthochilus saturnius (Rossi, 1790)							+
SALDIDAE							
Chartoscirta cincta (Herrich-Schaeffer, 1841)			+	+			
Macrosaldula variabilis (Herrich-Schaeffer, 1835)				+			
Saldula arenicola arenicola (Scholtz, 1847)			+				
Saldula opacula (Zetterstedt, 1838			+				
STENOCEPHALIDAE							
Dicranocephalus setulosus (Ferrari, 1874)		+	+				
TINGIDAE							
Acalypta marginata (Wolff, 1804)				+			
Campylosteira bosnica Horváth, 1892		+					
Dictyla echii (Schrank, 1782)			+				
Dictyla nassata (Puton, 1874)			+				
Monosteira unicostata (Mulsant & Rey, 1852)		+					
Stephanitis pyri (Fabricius, 1775)		+				+	
VELIIDAE							
Microvelia pygmaea (Dufour, 1833)			+	+			

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Research Article

Rare species in Mardin province of Türkiye: *Strongylocoris cicadifrons* A. Costa, 1853 (Heteroptera: Miridae) and it's new host plant record: *Campanula postii* (Boiss.)

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ABSTRACT: In this study *Strongylocoris cicadifrons* A. Costa, 1853 (Hetereoptera: Miridae) was recorded for the first time in South Eastern Anatolia Province of the Türkiye. In addition, this study revealed that the host plant of the species was *Campanula postii* Boiss. (Campanulaceae) for the first time.

KEYWORDS: Mardin, *Strongylocoris cicadifrons, Campanula postii,* new host plant.

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INTRODUCTION

In recent years, some studies have been carried out to determine the Heteroptera (Hemiptera) Fauna of the Southeastern Anatolia Region (Önder et al., 2006; Bolu et al.,2006; Matocq et al.,2014; Dursun & Fent, 2015; Çerçi et al., 2020; Özgen et al., 2020; Özgen et al., 2021;Çerçi et al., 2021 Sabuncu et al., 2021). In these studies, details about the host plants of the species were generally not mentioned. Especially the wide food chains of Miridae Hahn,1831 family species make it valuable to reveal the host preferences of these species. It is known that *Campanula postii*, which was given as a host plant in the study, is an important flower source generally for pollinator

bees (Pinheiro et al., 2015). In this study, a new host plant of *Strongylocoris cicadifrons* was given with a new locality record.

MATERIAL AND METHODS

The material was found in Mardin province in Turkey (Fig. 1). *S. cicadifrons* specimens were collected from Mardin Province during fieldwork in 2021. The specimens were captured individually shifter method during the spring period.

RESULTS AND DISCUSSION

Strongylocoris cicadifrons A. Costa, 1853

Material examined: Mardin, Artuklu, Zinnar village, 05.V. 2021., 28 exs, leg. M. Geçit, det. P. Dioli. (Collection of Fırat University, Faculty of Engineering, Bioengineering Department).

Distribution in Palaearctic: Europe: Bulgaria, Crete, France, Greece, Italy, Portugal, Spain. **North Africa:** Algeria, Morocco. **Asia:** Asian Türkiye, Israel (Aukema, 2020).

Distribution in Turkey: Antalya, İzmir, Kilis, Mersin. (Önder et al., 2006).

Note: Rare, Phytophagous (Önder et al., 2006).

In previous years, the specimens collected on *Quercus* spp. in mediterranean area (Gesse et al., 2014). Until now, no host record has been given in annual plants of this species. In this study, it was observed that the pest was abundant and mating activity took place on the *Campanula postii*. There are studies showing that some species of Miridae family, especially *some Orthocephalus* and *Strongylocoris* genera specimens, are found on *Campanula* spp. (Tatarnic and Cassis, 2012; Mateos et al., 2018). However, there is no single annual plant record for this species in terms of host plant in our country. Detailed studies on the host plant species given in this study should be carried out, and more detailed studies on the nutritional relations of the species should be done in the coming years.

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Figure 1. *Strongylocoris cicadifrons* A. Costa, 1853 and host plant (*Campanula postii Boiss.*). (Photo: Musa Geçit).

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Research Article

Heteroptera (Hemiptera) species visiting *Verbascum densiflorum* Bertol. in Edirne (Türkiye)

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ABSTRACT: This study was performed as weekly field excursions from September 2005 to December 2006 during autumn, winter (except January-March) spring and summer seasons in a field covering an area of 4500 m[2] in Balkan Campus of Trakya University (Edirne) where a denseflowered *Verbascum densiflorum* Bertol. (Scrophulariaceae) population existed. Members of different insect orders were collected from *V. densiflorum* plants and a total of 52 species belonging to 14 families (Rhyparochoromidae 11species, Miridae 8 species, Pentatomidae 8 species, Lygaeidae 4 species, Rhopalidae 4 species, Geocoridae 3 species, Oxycarenidae 3 species, Coreidae, Berytidae, Reduviidae and Tingidae 2 species for each and Scutelleridae, Anthocoridae and Alydidae 1 species for each) within Heteroptera (Hemiptera) were determined. When the collection times of the species are considered, 13 species were found in summer season during when the specimens were active and feeding and in autumn and winter seasons in their wintering periods, whereas 28 species were found only in autumn-winter and 11 species were found only in summer seasons. 43 of the determined species were phytophagous, 7 were zoophagous, 1 was zoophytophagous and 1 was phytozoophagous. The presence of Heteroptera species on *V. densiflorum* was reported for the first time with the present study. In addition, three of the identified species, *Aoploscelis bivirgata* (A. Costa, 1853), *Aphanus rolandri* (Linnaeus, 1758), and *Ischnocoris hemipterus* (Schilling, 1829) were recorded for the first time for the Thrace Region.

KEYWORDS: Heteroptera, *Verbascum densiflorum*, visiting, Edirne, Türkiye.

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INTRODUCTION

Verbascum densiflorum Bertol. (Scrophulariaceae) also known as the denseflowered mullein is a biennial herbaceous plant and its natural habitat is Europe and Asia. It is found only in Edirne and Kırklareli in Thrace Region in Türkiye. It mostly likes calcareous, clayey silicic acid soils. It rarely grows in forests, pastures and roadsides. The plant is 1-2 m. paint arrives. Only rosette leaves develop in the first year, and stem and flowers develop in the second year (Huber-Morath, 1978; Davis et al., 1988; Yılmaz & Dane, 2012). This plant, which does not want extreme growing conditions, grows easily in mostly forested areas, pastures and roadsides. Many insects living in their natural habitats spread to agricultural areas and damage crops. In recent years, alternative plants have been planted on the edges of agricultural areas where insects will feed, and the products have been protected. The "Enemies" hypothesis (Root, 1973) predicts a positive correlation between the richness of plant varieties and the abundance of natural enemies, which predicts a greater presence of natural enemies in multicultural compared to monocultures, resulting in further reduction of herbivorous populations in monoculture habitats (Letourneau, 1987) The higher availability of pollen and nectar in various habitats compared to simple habitats has been reported as a factor that may increase the populations of predators and parasitoids (Root, 1973; Andow, 1991). Population dynamics and biological control effectiveness of insect pest predators and parasitoids in agricultural ecosystems. The effect of plant diversity on plant diversity has been extensively studied (Russell, 1989; Altieri & Letourneau, 1984; Sheehan, 1986; Andow, 1991), a similar study in greenhouses was done by Sanchez et al. (2003).

Sanchez et al. (2003) tested harmful whitefly populations on tomatoes grown in greenhouses in the presence and absence of *Verbascum thapsus* L. *Dicyphus hesperus* Knight (Heteroptera: Miridae), which uses *V. thapsus* as a food plant, is also a zoophytophagous. It has been shown that the whitefly population is suppressed when *D. hesperus* eats tomato whitefly as an alternative food in greenhouses where *V. thapsus* is found.

In this study, it was aimed to determine the diversity of Heteroptera on *V. densiflorum* and to determine its use as an alternative plant. Detection of predators, zoophytophagous, phytozoophagous or zoophagous heteropters that can be detected on *V. densiflorum* and their use in the biological control of herbivores that are harmful in agricultural areas will provide data for studies.

MATERIALS AND METHODS

The study was carried out in the Balkan Campus of Trakya University, in an area of approximately 4500 m^2 between 2005-2006 (41°38'08"N, 26°36'36"E, h: 40 m). The study area is a field where *V. densiflorum* is concentrated and surrounded by almond trees (*Amygdalus communis* L.) and other fields with herbaceous plants (Figure. 1). Heteroptera adult specimens on *V. densiflorum* were collected with insect net and aspirator every week for two years from September 2005 to December 2006. Since the plant is a 2-year herbaceous plant, the sampling was started at the rosette stage. The samples obtained from the stem, flower and leaves of the plant were mounted and identified by taking into account the group-specific preparation techniques. The detected Heteroptera species, the collection dates of the samples, the season and the host species in the literature are given in Table 1.

RESULTS AND DISCUSSION

52 species belonging to 14 families from Heteroptera suborder on *V. densiflorum* were determined. According to their diet, 43 species are phytophagous, 7 species zoophagous, 1 species zoophytophagous and 1 species phytozoophagous. Considering the collection dates of the species for two years, 11 species were identified in summer (10 phytophagous and 1 zoophytophagous), 28 species in winter (22 phytophagous, 5 zoophagous and 1

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phytozoophagous), 13 species in both summer and winter (11 phytophagous, 2 zoophagous) (Table 1). 10 of the phytophagous species visited *V. densiflorum* for feeding, 11 for both feeding and wintering and 22 for only wintering. 2 zoophagous (*Geocoris erytrocephalus*, *Orius niger*) species were found on *V. densiflorum* during both summer and winter periods. These species are most likely visiting the plant during summer to feed on mites, aphids and eggs and larvae of various insects and stay on the same plant for wintering. 5 zoophagous (*Geocoris ater, G. megacephalus, Metapterus linearis, Deraeocoris punctulatus, Coranus griseus*) and 1 phytozoophagous species (*Aphanus rolandri*) were determined to visit the plant only for wintering. 1 zoophytophagous species (*Campylomma verbasci*) were found on *V. densiflorum* during summer and they are thought to feed either on mites and aphids present on the plant or on the plant itself. *V. thapsus*, a common *Verbascum* species, is known as its main host. *C. verbasci* overwinter in the egg stage. Therefore, it was not found in the winter period.

It is seen that 8 species (7 zoophagous (predator), 1 zoophytophagous species) detected on *V. densiflorum* can be used in the biological control of herbivores, which are harmful in many plants that are planted in fields and gardens and have economic importance.

Geocoridae family species feed on small arthropods and are important predators in controlling harmful species. During our research, three species of this family were detected on *V. densiflorum*. Among these species, *Geocoris megacephalus* hosts include cotton leafworm (*Spodoptera littoralis*), cotton striped leafworm (*Spodoptera exigua*), vegetable pest (*Heliothis armigera*), cotton aphid (*Aphis gossypii*) (Turhan et al., 1983). The other detected species *G. erythrocephalus* feeds on aphids as well as *Tetranychus urticae, T. atlanticus* and *T. cinnabarinus*. The genus *Tetranychus* includes economically very harmful species. *Geocoris ater* occasionally feeds on *Lepidargyrus ancorifer*, a Miridae species known to damage plants such as onions and pistachios (Çakır & Önder, 1990). Heteroptera species generally spend the winter as adults, and more rarely as nymphs and eggs. Adult individuals choose a variety of sheltered places such as leaf litter, tree bark, under stones, and plant galleries for wintering. *Verbascum* species generally provides a suitable wintering environment for insects with its hairy and thick leaves. Survival of as many predators as possible during the winter period plays an important role in suppressing herbivorous species. Because individuals coming out of the winter usually mate, lay eggs and die. Önder et al. (1983) reported that *Geocoris* species generally overwinter in the bottom leaves of *Verbascum* species. In this study, it was determined that all *Geocoris* species overwintered in the bottom leaves of *V. densiflorum*. By planting *V. densiflorum* or other *Verbascum* species distributed in that region on the edges of cotton fields and vegetable gardens, harmful herbivores can be kept under control by taking advantage of the predatory feeding feature of *Geocoris* species.

In the study of Göven & Gümüş (1998) in which they determined the natural enemies of cotton striped worm (*Spodoptera exigua*) which is harmful in cotton fields in Diyarbakır province, *Geocoris pallidipennis* were determined. Ruberson et al. (1994) in the USA *S. exigua* in their study in which they tested the effect of natural enemies in the fight against the disease, they found that approximately 11 predatory natural enemies suppressed *S. exigua* populations and resulted in 99% death.

Orius niger, one of the zoophagous species detected in this study, is a very polyphagous species that preys on aphids, pislids, whiteflies, thrips, Lepidoptera, pentatomids, eggs of mites, larvae of noctuids in the Palearctic Region (Péricart, 1972). In Türkiye, the Mediterranean flour moth, *Ephestia kuehniella* Zeller, 1879 (Lepidoptera: Pyralidae), *Tetranychus cinnabarinus* Boisduval (Acari: Tetranychidae), *Bemisia tabaci* Gennadius (Hemiptera: Aleyrodidae), pests such as flower thripsi *Frankliniella*

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occidentalis (Pergananidae) eggs and is important in the control of these pests (Bahşi & Tunç, 2008; Efe & Çakmak, 2013; Pehlivan & Atakan, 2017). Herard (1986) identified *O. niger* as a predator of *Cacopsylla pyri* in pears, but also collected numerous specimens of the predator from the stinging nettle *Trioza urticae* surrounding pear orchards.

The principal herbaceous hosts of *Campylomma verbasci* are common mullein, *Verbascum thapsus* L., and potato, *Solanum tuberosum* L., throughout its distribution. Common mullein is usually described as the major host but nymphs or adults have been found on a variety of plants in the summer. The nymphs cause injury to some fruit varieties by feeding on the flower parts following fruit set. More commonly they prey on the wide variety of small arthropods and eggs. The nymphs and adults are described as useful predators in both Europe and North America. Significant feeding has been observed on *Psylla mali* Schm., *Psylla pyricola* Forster, *Tetranychus telarius* (L.), *T. mcdanieli* McG., *T. pacificus* McG., *Eriophyes pyri* (Pagenstecher), *Aphis pomi* DeG., *Rhopalosiphum fitchii* (Sand.), *Anuraphis rosea* (Forbes), *Cydia pomonella* (L.), *Phenacoccus aceris* (Signoret), and *Bryobia praetiosa* Koch. The European red mite, *Panonychus ulmi* Koch, is frequently reported as a major component of the diet of *C. verbasci* (Thistlewood, 1986).

Alternative food crops, which are applied to remove harmful insects from economically produced plants and planted on the margins of the fields in question, have been used frequently in recent years. According to the data obtained as a result of the study, it is seen that this plant can be used to repel harmful insects, especially considering the species richness of predator, zoophagous and zoophytophagous insects on *V. densiflorum*. This is the first study to detect Heteropters living on *V. densiflorum*.

In this study also, three species of Rhyparochromidae family, *Aoploscelis bivirgata* (A. Costa, 1853), *Aphanus rolandri* (Linnaeus, 1758) and *Ischnocoris hemipterus* (Schilling, 1829) determined for the first time in Thrace Region.

Aoploscelis bivirgata is a very rare species, previously recorded from the Anatolian part of Türkiye, from Hatay (Akbez) (Puton & Noualhier, 1895) and Ankara (Kızılcahamam) (Péricart, 1998a). In the Palearctic distribution, the species is found in Europe, especially in Bulgaria and Greece, neighboring the Thrace Region, in the Balkans and in southern Europe, in North Africa, in Algeria, Morocco and Tunisia, and in Asia with Anatolia, in Armenia, Cyprus and Syria (Aukema, 2020). In this study, 3 specimens were detected in the lower leaves of *V. densiflorum* during the wintering period. This finding is the first record of this species in the Thrace Region, which was previously recorded from only two localities in Anatolia.

Aphanus rolandri has been recorded in many localities (Adana, Adıyaman, Akşehir, Ankara, Antalya, Balıkesir, Bingöl, Bolu, Çorum, Elazığ, Kahramanmaraş, Karabük, Kars, Kayseri, Kırşehir, Kahramanmaraş, Konya, Muğla, Niğde, Osmaniye, Samsun, Zonguldak) in Anatolia (Péricart, 1998b; Lodos et al., 1999; Önder et al., 2006; Öncül-Abacıgil et al., 2010). It has a wide distribution in the Palearctic Region, especially in Europe (Aukema, 2020). In this study, only a single specimen was detected in the wintering period under the bottom leaves of *V. densiflorum*, and this is the first record of the species in the Thrace Region.

Ichnocoris hemipterus is a very rare species that has been identified from the Anatolian part of Türkiye only from Kayseri (Péricart, 1998a). This species, which has a wide distribution in Europe, is known from Asia, Anatolian part of Türkiye, Azerbaijan, Armenia and Georgia (Aukema, 2020). Apart from one specimen in May, a large number of specimens were found overwintering between the lower leaves of *V. densiflorum*.

The finding in this study is the first record of the species in the Thrace Region and the second in Türkiye.

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Table 1. Heteroptera species on *Verbascum densiflorum*, collection dates, sample numbers, season and host information.

SPECIES	DATUM	SEASON	HOST
ALYDIDAE			
***Camptopus lateralis* (Germar 1817)**	01.06.2006, 1 individual	summer	**Phytophagous**. oligophagous Fabaceae (*Coronilla, Medicago, Lotus, Trifolium, Onobrychis*). (Wachmann et al., 2007). *Hypericum perforatum, Astragalus sp. Sambucus nigra* (Dursun et al., 2010). *Chrysanthemum* sp. (Asteraceae) *Rosa sp., (Rosacae) Rumex sp.* (Polygonaceae) (Akman & Dursun, 2021).
ANTHOCORIDAE			
***Orius niger* (Wolff, 1811)**	20.12.2005, 1 individual 25.05.2006, 1 individual 12.06.2006, 1 individual	summer-winter	**Zoophagous**. Very polyphagous species that preys on eggs of aphids, pislids, white-flies, thrips, lepidopters, pentatomids and mites and larvae of noctuids (Péricart, 1972). This species is found on Boraginaceae, Ericaceae, Fabaceae, *Urtica, Artemisia* (Wachmann et al., 2006)
BERYTIDAE			
***Berytinus montivagus* (Meyer -Dür, 1841)**	13.10.2005,2 individuals 20.10.2005, 1 individual	winter	**Phytophagous**. Oligophagous, Fabaceae (*Medicago, Trifolium*) (Wachmann et al., 2007).
***Gampsocoris culicinus* Seidenstücker, 1948**	27.10.2005, 1 individual 14.12.2006, 1 individual	winter	**Phytophagous**. Polyphagous, Lamiaeceae, Boraginaceae, Scrophulariaceae, Fabaceae, *Stachys sylvatica* (Wachmann et al., 2007).
COREIDAE			
***Centrocoris variegatus* Kolenati, 1845**	27.10.2005,2 individuals 06.10.2005, 1 individual 09.10.2005. 1 individual	winter	**Phytophagous**. Asteraceae, *Cirsium* sp., *Sambucus ebulus* (Dursun & Fent, 2009; Akman & Dursun, 2021).
***Coreus marginatus marginatus* (Linnaeus, 1758)**	13.10.2005, 1 individual 09.11.2005, 1 individual	winter	**Phytophagous**. Polyfag. Polygonaceae, *Rumex*, *Polygonum* species. Asteraceae, Rosaceae (*Rubus*), Scrophulariaceae (*Verbascum*) (Wachmann et al., 2007). *Rubus santus, Rubus canascens, Sambucus nigra, Paliurus spina* (Dursun & Fent, 2009).
GEOCORIDAE			
***Geocoris ater* (Fabricius, 1787)**	06.10.2005, 1 individual	winter	**Zoophagous**. It is a predator of various aphids and mites. They were taken on *Arbutus sp., Berberis sp., Cedrus sp., Convolvulus sp., Juncus sp., Medicago maritimus, M. minima, Onopordum sp., Salix sp., Verbascum sp.,* weeds, on the ground and under stone (Lodos et al., 1999). This species overwinter the bottom leaves of *Verbascum* and *Astragalus* species in adult stage. (Önder et al., 1983)
***Geocoris erytrocephalus* (Lepeletier & Serville 1825)**	27.09.2005,3 individuals 08.10.2005, 1 individual 13.10.2005, 3individuals 27.10.2005, 1 individual 09.11.2005,2 individuals 27.04.2006, 1 individual 05.07.2006, 1 individual 27.10.2006, 1 individual 07.12.2006, 1 individual 14.12.2006,2 individuals	summer-winter	**Zoophagous**. It is a predator of various aphids and mites. They were taken on *Althaea sp., Anchusa sp., Astragalus sp., Ballota sp., Cannabis sp., Centaurea sp., Cirsium sp., Cistus sp., Crateagus sp., Daucus sp., Fagus sp., Glychirrizza glabra, Inula sp., Juglans regia, Juniperus sp., Lathyrus sp., Medicago sativa, Mentha sp., Olea europea, Onopordum sp., Pinus sp., Phaseolus vulgaris, Pistacia vera, Pyrus angustifolia, P. malus, Populus sp., Prunus armeniaca, Punica granatum, Quercus sp., Rhus sp., Rosa sp., Rubus sp., Salix sp., Salvia sp., Sesamum indicum, Sinapis sp., Spinacia oleracea, Tamarix sp., Urtica sp., Verbascum sp., Veronica sp., Vitex agnus-castus,* Poaceae and Apiaceae species (Lodos et al., 1999; Kıyak et al., 2020).

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***Geocoris megacephalus* (Rossi,1790)**	20.10.2005, 1 individual 13.10.2005, 3 individuals 09.11.2005, 1individual 14.12.2006, 2 individuals	winter	**Zoophagous**. It is a predator of various aphids and mites. They were taken on *Astragalus sp., Cirsium sp., Trifolium sp., Verbascum sp.,* weeds and on the ground (Lodos et al., 1999). *Olea sp.* (Kaçar & Dursun, 2015). This species overwinter the bottom leaves of *Verbascum* and *Astragalus* species in adult stage (Önder et al., 1983).
LYGAEIDAE			
***Lygaeus equestris* (Linnaeus, 1758)**	06.10.2005, 1 individual 05.07.2006, 1 individual 21.07.2006, 2 individuals	summer -winter	**Phytophagous**. Polyphagous, *Adonis vernalis, Vincetoxicum,* They were taken on different plants and trees such as *Astragalus sp., Centaurea sp., Chenopodium sp.,Convolvulus sp.,Elaeagnus orientalis, Euphorbia sp., Juniperus sp., Lens culinaris, Nerium oleander, Olea europea, Onopordum sp., Peganum harmala, Pinus sp., Pyrus communis, P. malus, Pistacia vera, Platanus sp., Populus sp., Prunus armeniaca, P. domestica, Quercus sp., Rhus sp., Rosa sp., Rubus sp., Rumex sp., Salix sp., Sinapis sp., Spinacia oleracea, Tamarix sp., Verbascum sp., Vicia sp., Vitex sp.,** weeds, Brassicaceae plants, Apiaceae species (Lodos et al., 1999). *Artemisia maritima, A. absintium, Digitalis amandiana, D. chinensis, Pyrthrum cinerariaefolium, Lysimachia vulgaris, Echinops sphaerocephalus, Rheum capsicum, Centaurea sibirica* (Zobar & Kıvan, 2005)
***Nysius ericae* (Schilling, 1829)**	13.10.2005, 1 individual 07.12.2006, 3 individuals 14.12.2006, 2 individuals 09.11.2005, 2 individuals 20.10.2005, 3 individuals 20.10.2006, 1 individual	winter	**Phytophagous**. Polyphagous, it has an extensive host plant list but is more common in Asteraceae species. (Wachmann et al., 2007). They were taken on different species of plants such as *Anthemis sp., Antirrhinum majus, Astragalus sp., Centaurea sp., Chenopodium sp., Cirsium sp., Juncus sp., Matricaria sp., Medicago sativa, Mentha sp., Phloemis sp., Quercus ilex, Q. macrolepis, Salvia sp., Sambucus sp., Tamarix sp., Triticum sp., Verbascum sp., Vicia sp.,* Poaceae species (Lodos et al., 1999).
***Nysius senecionis senecionis* (Schilling, 1829)**	06.10.2005, 2 individuals 13.10.2005, 13 individuals 20.10.2005, 26 individuals 27.10.2005, 15 individuals 09.11.2005, 15 individuals 07.12.2006, 4 individuals 15.10.2006, 1 individual 14.12.2006, 11 individuals 17.12.2006, 1 individual	winter	**Phytophagous**. Polyphagous, Asteraceae species, *Artemicia, Senecio and Matricaria* (Wachmann et al., 2007). They were taken on *Chenopodium sp., Sinapis sp., Verbascum sp.* and also different species of weeds (Lodos et al., 1999).
***Nysius thymi* (Wolff, 1804)**	13.10.2005, 1 individual 09.11.2005, 3 individuals 07.12.2006, 1 individual 27.10.2005, 1 individual 15.11.2006, 1 individual 14.12.2006, 4 individuals 06.10.2005, 1 individual 20.10.2005, 2 individuals	winter	**Phytophagous**. Polyphagous, it has an extensive host plant list Asteraceae (*Senecio, Achillea, Erigeron, Inula*), Lamiaceae (*Thymus*) Brassicaceae (*Lepidium*) (Wachmann et al., 2007). They were taken on *Centaurea sp., Cicer arietinum, Glycyrrhiza glabra, Gossypium sp., Juniperus sp., Mentha sp., Phloemis sp., Salvia sp., Sinapis sp., Tamarix sp., Thymus vulgaris, Triticum sp., Verbascum sp.,* Poaceae species and weeds (Lodos et al., 1999).
MIRIDAE			
***Adelphocoris vandalicus* (Rossi, 1790)**	01.06.2006, 1 individual 12.06.2006, 3 individuals 23.06.2006, 9 individuals 05.07.2006, 3 individuals	summer	**Phytophagous**. Ployphagous, it feeds on Fabacea family species and its larvae and adults are common on *Verbascum.* (Wachman et al., 2004). *Centaurea, Echinops, Verbascum, Tanacetum* (Wagner, 1970/ 1971). *Astragalus penduliflorus Astrodaucus orientalis, Carum carui, Centaurea solstitialis, Centranthus longiflorus, Convolvulus arvensis, Crepis foetida,*

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			Echium italicum, E. vulgare, Euphorbia amygdaloides, Falcaria vulgaris, Inula oculus-christi, Lotus corniculatus var. tenuifolius, Lythrum salicaria, Medicago sativa,. Melilotus officinalis, Salvia nemorosa, S. verticillata (Yazıcı & Yıldırım, 2017).
***Brachycoleus steini* Reuter, 1877**	01.06.2006, 1 individual	summer	**Phytophagous**. On *Centaurea* sp. in hilly steppes (Linnavuori, 2007) and *Scolymus hispanicus* (Linnavuori, 2009); *Calluna vulgaris, Cirsium sp., Onopordum sp., Alhagi sp., Vicia cracca, Vicia sp.*, Poaceae species, (Lodos et al., 2003)
***Campylomma verbasci* (Meyer-Dur, 1843)**	02.06.2006, 9 individuals 01.06.2006, 4 individuals 23.06.2006, 1 individual	summer	**Zoophytophagous**. This species regularly found on *Verbascum*. It is also found in herbaceous plants, deciduous woods. It is harmful to potatoes and some woody Rosaceae species. As a zoophagous, it stings and sucks eggs of leaf mites and aphids (Sterrnoryncha, Aleyrodidae and Cicadidae) (Wachman et al., 2004).
***Cyphodema instabilis* (Lucas, 1849)**	01.06.2006, 1 individual	summer	**Phytophagous.** *Genista sp. Medicago sativa, Matricaria sp. Cirsium sp. Sinapis sp. Vitex agnus castus, Cirsium sp. Laurus nobilis Lonicera sp., Verbascum sp.*, Poaceae species and weeds (Lodos et al., 2003)
***Deraeocoris punctulatus* (Fallén, 1807)**	07.12.2006, 1 individual 14.12.2006, 1 individual	winter	**Zoophagous.** It feeds on aphids and is found on *Artemisia, Rumex, Chenopodium, Tanacetum, Senecio, Thymus* and overwinters as adults under the bark of trees such as *Aesculus, Juglans, Populus* and *Taxus* and in dry litter (Wachman, 2004); *Spinacia putoni, Matricaria sp. Triticum sativa, Vicia cracca, Gossypium hirsitum* (Lodos et al., 2003). It was also determined that it was fed with *Aphis gosyppi*. (Öncüer, 1991; Kocadal, 2006).
***Horistus orientalis* (Gmelin, 1790)**	01.06.2006, 5 individuals 27.04.2006, 1individual 25.05.2006, 2 individuals	summer	**Phytophagous**. Liliaceae, *Galium, Verbascum, Achillea, Senecio, Bromus* (Wachmann, 2004)
***Lygus gemellatus* (Herrich-Schaffer, 1835)**	23.06.2006, 1 individual	summer	**Phytophagous**. *Artemisia* spp. (Wachmann, 2004)
***Lygus pratensis* (Linnaeus, 1758)**	01.06.2006, 2 individuals 12.06.2006, 2 individuals	summer	**Phytophagous**. Polyphagous, Asteraceae (*Matricaria, Artemisia, Chrysanthemum, Tanacetum, Achillea, Senecio*), *Verbascum sp.* This species overwinters under the bark of conifers such as *Pinus, Picea, Juniperus*, under moss and leaf litter. (Wachmann, 2004). *Olea* sp. (Kaçar & Dursun, 2015).
OXYCARENIDAE			
***Metapoplax origani* Kolenati, 1845**	12.06.2006, 1 individual 23.06.2006, 2 individuals	summer	**Phytophagous**. Polyphagous, Asteraceae (*Helichrysum, Chysanthemum, Achillea, Anthemis, Matricaria*). This species winters under the bark of various trees. (Wachmann et al., 2007). They were taken on *Althaea rosae, Astragalus sp., Cistus spp., Corylus avellana, Crataegus sp., Cydonia vulgaris, Fagus sp., Juncus sp., Laurus sp., Matricaria chamomilla, Melilotus sp., Phloemis sp., Pinus sp., Pyrus communis, Quercus sp., Rosa sp., Salix sp., Sinapis sp., Tamarix sp., Ulmus sp., Verbas-cum sp.,* Brassicaceae, Lamiaceae and Poaceae species, different species of weeds (Lodos et al., 1999).
***Microplax interrupta* (Fieber, 1837)**	09.11.2005, 2 individuals	winter	**Phytophagous**. Asteraceae (*Helichrysum, Tanacetum, Filago, Achillea, Micropus, Anthemis*) (Wachmann et al., 2007); Adults were collected on *Juncus sp., Juniperus sp., Mentha sp., Quercus sp., Salvia sp., Verbascum sp.* and on weeds, (Lodos et al., 1999).

***Oxycarenus pallens* (Herrich- Schäffer, 1850)**	13.10.2005, 1 individual 20.10.2005, 1 individual 27.10.2005, 2 individuals 09.11.2005, 2 individuals 25.05.2006, 6 individuals 01.06.2006, 3 individuals 12.06.2006, 2 individuals 23.06.2006, 9 individuals 10.09.2006, 1 individual	summer -winter	**Phytophagous**. Polyphagus, *Centaurea* spp, and other Asteraceae species (Wachmann et al., 2007). Adults were collected on *Althaea rosae, Amygdalus sp., Astragalus sp., Beta vulgaris, Capparis sp., Centaurea solstitialis, Cirsium sp., Daucus sp., Fagus sp., Hordeum sp., Inula sp., Juncus sp., Juniperus sp., Matricaria chamomilla, Medicago sativa, Olea europea, Onopordum sp., Phloemis sp., Pyrus malus, Quercus sp., Rhus sp., Rubus sp., Salix sp., Sinapis sp., Sonchus sp., Tamarix sp., Triticum sp., Verbascum sp.,* Poaceae and Leguminaceae species and weeds (Lodos et al., 1999).
PENTATOMIDAE			
***Antheminia lunulata* (Goeze,1778)**	09.11.2005, 1 individual	winter	**Phytophagous**. Polyphagous, *Euphorbia sp., Peganum harmala* and various Apiaceae species (Lodos et al., 1998). *Artemisia absinthium, A. campestris, A. vulgaris, Centaurea scabiosa, Euphorbia sp., Fragaria vesca, Gnaphalium sp., Helichrysum aernarium, Heraclium platytaenim, Medicago sariva, Sambucus ebulus, Verbascum thapsus, Verbascum sp.* (Awad, 2000) *Lavatera bryoniifolia, Nerium oleander, Sigesbeckia orientalis* (Dursun & Kartal, 2008a).
***Carpocoris mediterraneus* Tamanini, 1958**	07.09.2005, 3 individuals 27.09.2005, 2 individuals 06.10.2005, 1 individual 27.10.2005, 2 individuals 04.05.2006, 3 individuals 01.06.2006, 1 individual 12.06.2006, 2 individuals 28.06.2006, 4 individuals 05.07.2006, 3 individuals 05.07.2006, 1 individual 12.07.2006, 6 individuals 21.07.2006, 7 individuals 28.07.2006, 3 individuals 10.08.2006, 1 individual 13.08.2006, 1 individual 15.11.2006, 1 individual	summer -winter	**Phytophagous**. Polphagous, *Althaea sp., Asphodelus sp., Asteriscus spinosus, Cannabis sativa, Carduus nutans, C. picnocephalus, Carlina corymbosa, Centaurea sp., Cirsium arvense, Cirsium sp., Cynara scolymus, Daucus carota, Dolichos lubia, Echium sp., Galactites tomantosa, Hypochoeris radiata, Knautia sp., Matricaria chamomilla, Medicago sativa, Olea europea, Onopordum sp., Phloenis sp., Scabiosa atropurpurea, Scolymus hispanicus, Sesamum indicum, Sinapis sp.,Solanum tuberosum, Spartium junceum, Triticum sativa, Verbascum thapsus, Verbascum sp.,Vitis vinifera, Zea mays* (Lodos et al., 1998; Awad, 2000). *Carthamus glaucus, Centaurea virgata, Circium arvense, Eryngium creticum, Hypericum perforatum, Lavatera bryoniifolia, Picris strigosa, Salvia tomentosa, Scolymus hispanicus, Torylis leptophylla, Verbascum sp.,* (Dursun & Kartal, 2008a)
***Carpocoris pudicus* (Poda, 1761)**	07.09.2005, 1 individual 12.07.2006, 1 individual 21.07.2006, 2 individuals	summer -winter	**Phytophagous**. Polyphagous, *Achillea millefolium, Aronia rotundifolia, Altropa belladonna, Capsicum annum, Carduus thistles, C. nutans, Centaurea sp., Cirsium sp., Daucus carota, Digitalis microcantha, Epibolium angustifolium, Eringium maritimum, Hypericum perforatum, Medicago sp., Onopordum sp., Quercus sp., Rosa sp., Rubus idaeus, R. ulmifolius, Scrophularia canina, Triticum sp., Verbascum lycnitis, V. thapsus, Verbascum sp. Viburnum lantana,* weeds (Lodos et al., 1998; Awad, 2000) *Carthamus glaucus, Centaurea virgata, Circium arvense, Eryngium creticum, Hypericum perforatum, Lavatera bryoniifolia, Linum flavum subsp. flavum, Onopordum tauricum, Pictis strigosa, Scolymus hispanicus, Torylis leptophylla* (Dursun & Kartal, 2008a).

Carpocoris *purpureipennis* (De Geer, 1773)	07.09.2005, 4 individuals 13.09.2005, 1 individual 27.09.2005, 4 individuals 06.10.2005, 1 individual 20.04.2006, 3 individuals 11.05.2006, 1 individual 01.06.2006, 1 individual 13.06.2006, 5 individuals 18.06.2006, 1 individual 23.06.2006, 1 individual 28.06.2006, 2 individuals 05.07.2006, 3 individuals 21.07.2006, 1 individual 28.07.2006, 1 individual 10.09.2006, 4 individuals 10.09.2006, 3 individuals	summer-winter	**Phytophagous**. Polyphagous, *Achillea sp., Althae rosae, Asphodelus microcarpus, Asphodelus sp., Avena sativa, Centaurea sp., Cirsium spp., Cornus mas, Daucus carota,Ficus carica, Galium sp.,Hordeum sp. Lamium sp., Lupinus varius, Medicago maritima, Onopordum sp., Peganum harmala, Prunus domestica, Rhamnus sp, Rhaphanus sativus, Rhaphanus sp., Salvia sp., Sideritis sp, Sinapis sp., Triticum sp., Verbascum sp., Vicia sp.,* various Apiaceae species and weeds (Lodos et al., 1998; Awad, 2000). *Carthamus glaucus, Centaurea virgata, Circium arvense, Eryngium creticum, Hypericum perforatum, Lavatera bryoniifolia, Scolymus hispanicus.* (Dursun & Kartal, 2008a).
***Codophila varia* (Fabricius, 1787)**	07.09.2005, 1 individual 13.10.2005, 1 individual 28.07.2006, 1 individual	summer-winter	**Phytophagous**. Polyphagous, *Carthamus sp., Centaurea sp., Cirsium sp., Daucus sp., Echium plantigineum, Medicago sativa,, Onopordum sp. Sinapis sp., Verbascum sp.,* various Apiaceae and Poaceae species (Lodos et al., 1998). *Carthamus glaucus, Lavatera bryoniifolia, Scolymus hispanicus, Torilis leptophylla* (Dursun & Kartal, 2008a)
***Dolycoris baccarum* (Linnaeus, 1758)**	07.09.2005, 7 individuals 06.10.2005, 1 individual 13.10.2005, 4 individuals 27.10.2005, 1 individual 20.12.2005, 2 individuals 25.05.2006, 1 individual 26.06.2006, 1 individual 05.07.2006, 3 individuals 12.07.2006, 2 individuals 21.07.2006, 2 individuals 10.08.2006, 1 individual 13.08.2006, 2 individuals 13.08.2006, 1 individual 07.12.2006, 1 individual	summer-winter	**Phytophagous**. Polyphagous, *Alhagi sp., Alkanna sp., Althae rosae, Astragalus sp., Carthanus sp, Cedrus sp., Centaurea sp., Chrysenthemum coranarium, Cicer arientinum, Cirsium sp., Cistus sp., Cupressus sp., Echinops viscosus bithynicus, Echium sp., Eleagnus orientalis, Fruticosus sp., Galium sp., Helianthus annus, Hordeum sp., Inula sp., Juniperus sp., Lupinus varius, Medicago marino, M. sativa, Ononis adenotrche, Onopordum sp., Papaver spicatum, Peganum harmala, Phloemis sp., Pirus malus, Prunus domestica, Rubus sp., Salix sp., Salvia sp., Scolymus hispanicus, Sideritis sp., Sinapis sp., Solanum tuberosum, Spinacia oleraceae, Tamarix sp., Triticum sativa, Urtica sp., Verbascum tapsus, Verbascum sp.,* various Apiaceae and Poaceae species (Lodos et al., 1998). *Carthamus glaucus, Circium arvense, Corylus avellana, Crateagus monogyna, Echium vulgare, Euphorbia orientalis, Gladiolus italicus, Hypericum perforatum, Lavatera bryoniifolia, Picris strigosa, Rubus sp., Sideritis taurica, Sigesbeckia orientalis, Torilis leptophylla, Verbascum sp., Vicia lutea.* (Dursun & Kartal, 2008a)
***Eurydema ornata* (Linnaeus, 1758)**	07.09.2005, 3 individuals 27.09.2005, 5 individuals 06.10.2005, 6 individuals 13.10.2005, 4 individuals 20.10.2005, 3 individuals 12.07.2006, 2 individuals 21.07.2006, 1 individual 10.09.2006, 1 individual	summer-winter	**Phytophagous**. Polyphagous, *Alhagi sp., Alyssum murale, Capparis sp., Cirsium sp., Cornus mas, Fagus sp., Medicago sativa, Onobrychis sativa, Ononis sp., Onopordum sp., Pirus malus, Rorippa sp., Sinapis sp., Spinacia sp., Tritcum sativa, Verbascum thapsus, Verbascum pulvurulentus, Verbascum sp., Veronica sp., Vicia cracca, various,* Apiaceae and Brassicaceae species (Lodos et al., 1998). *Alcea apterocargy, Brassica oleracea, Calluna vulgaris, Conringia orientalis, Echium vulgare, Erodium cicutarium, Gladiolus italicus, Hypericum perforatum, Lavatera bryoniifolia, Malva neglecta, Matricaria chamomilla var. recutica, Medicago x-varia, Melilotus officinalis, Orchis anatolica, Ornithogalum sigmoideum, Picris strigosa, Raphanus raphanistrum, Rumex crispus, Salvia verticillata, Salvia viridis, Sideritis taurica, Sigesbeckia orientalis, Sinapsis arvensis, Sophora alopecurioides, Stipa bromoides, Trgopogon aureus, Vulpia myosuroides, Verbascum sp., Vicia lutea* (Dursun & Kartal, 2008b)

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***Peribalus strictus vernalis* (Wolff, 1804)**	21.07.2006, 1 individual	summer	**Phytophagous**. Polyphagous. *Achillea millefolium, Arundo donax, Betula sp. Celtis australis, Centaurea jacea, Crateagus sp., Epibolium angustfolium, Ficus carica, Gossypium sp., Juniperus communis, Medicago sativa, Olea europea, Pinus sp., Pirus malus, Pistacia vera, Prunus amygdali, P. armeniaca, Prunus domestica, Punica granatum, Quercus pedunculata, Rosa sp., Rubus caesius, Scrohularia sp., Sinapis sp., Solanum melongena, Triticum sativa, Urtica sp., Verbascum sp.* (Lodos et al., 1998; Awad, 2000).
REDUVIIDAE			
***Metapterus linearis* A.Costa, 1862**	09.11.2005, 1 individual	winter	**Zoophagous**. Predator, this species lurks and catches small arthropods close to the ground (Wahman et al., 2006), It was found roots of willows, poplars, *Tamarix, Juncus, Cypreus and under Poterum spinosum* (Putshkov & Moulet, 2009).
***Coranus griseus* (Rossi, 1790)**	09.11.2005, 1 individual	winter	**Zoophagous**. Predator, this species hides in hot arid biotopes, on the ground under stones or under rosette leaves of plants. There is no specific hunting information. (Wachmann et al., 2006). It was found on *Sinapis arvensis, Quercus, Nicotiana tabacum, Narcissus, Alhagi, Gossypium, Oryza sativa, Beta vulgaris* by Önder (1980).
RHOPALIDAE			
***Brachycarenus tigrinus* (Schilling, 1829)**	07.09.2005, 1 individual 06.10.2005, 1 individual 20.10.2005, 1 individual 09.11.2005, 1 individual	winter	**Phytophagous**. Polyphagous, Brassicaeceae (*Alyssus, Berteroa, Sisyphium, Lepidium, Thlaspi, Biscutella, Capsella*), Chenopodiaceae (*Chenopodium*), Fabaceae (*Trifolium*), Asteraceae (*Artemisia*), Poaceae (*Poa*). Adults found overwintering under the *Calluna* and *Verbascum rosettes* (Wachman et al., 2007; Akman & Dursun, 2021).
***Liorhyssus hyalinus* (Fabricius, 1794)**	07.09.2005, 1	winter	**Phytophagous**. Asteraceae (*Lactuca, Sonchus, Anthemis, Cirsium*), Poaceae (*Poa*) and weeds (Wachman et al., 2007; Akman & Dursun, 2021).
***Maccevethus caucasicus* (Kolenati, 1845)**	25.05.2006, 1 individual 27.09.2005, 1 individual 01.06.2006, 1 individual	summer -winter	**Phytophagous**. Polyphagous, *Centaurea sp, Cirsium sp., Matricaria chamomilla, Erodium sp., Medicago sativa, Oryza sativa, Triticum sativum, Quercus sp., Prunus amygdali, Hordeum sp.* Poaceae and Asteraceae species (Pehlivan, 1981; Modarres Awal, 1996; Linnavuori, 2012).
***Stictopleurus abutilon* (Rossi, 1790)**	25.05.2006, 1 individual	summer	**Phytophagous**. Polyphagous, Various Asteraceae (*Artemisia, Achillea, Anthemisia, Calendula, Centaurea, Chrysanthemum, Matricaria, Pulicaria, Senecio, Tanecetum, Hieracium*), Ercaceae, Fabaceae, Onagraceae, Cistaceae, Lamiaceae, Rutaceae (Moulet, 1995; Wachman et al., 2007; Akman & Dursun, 2021)
RHYPAROCHROMIDAE			
***Aoploscelis bivirgata* (A. Costa, 1853)**	20.10.2005, 3 individuals	winter	**Phytophagous**. Host plants unknown.
***Aphanus rolandri* (Linnaeus, 1758)**	27.10.2005, 1 individual	winter	**Phytozoophagous**. Phytophagous in general. It also feeds on dead Arthropods and insect eggs. (Wachmann et al., 2007). They were collected on *Prunus avium, Secale cereale, Verbascum sp.* and weeds (Lodos et al., 1999).
***Beosus quadripunctatus* (Muller, 1766)**	13.10.2005, 1 individual 20.10.2005, 1 individual 27.10.2005, 1 individual 14.12.2006, 2 individuals	winter	**Phytophagous**. The adults were collected on *Ballota sp., Carthamus sp., Juniperus sp., Matricaria sp., Ononis sp., Sinapis sp., Tamarix sp., Urtica sp., Veronica sp.*, weeds, understone, on the ground (Lodos et al., 1999).
***Emblethis griseus* (Wolff, 1802)**	27.10.2005, 1 individual	winter	**Phytophagous**. They were collected on *Astragalus sp., Cirsium sp., Medicago sativa, M. maritima, Tamarix sp.*, weeds, on the ground, understone (Lodos et al., 1999).

***Lamprodema maura* (Fabricius, 1803)**	27.10.2005, 1 individual 09.11.2005, 2 individuals 07.12.2006, 2 individuals	winter	**Phytophagous**. It feeds on seeds in the soil, especially on Chenopodiaceae.They were collected on *Capparis spinosa, Medicago sp., Quercus ilex, Spinacia oleracea, Verbascum sp.,* some weeds, by light trap, on the ground, understone (Lodos et al., 1999).
***Ischnocoris hemipterus* (Schilling, 1829)**	13.10.2005, 2 individuals 20.10.2005, 18 individuals 25.10.2005, 6 individuals 09.11.2005, 6 individuals 11.05.2006, 1 individual 14.10.2006, 3 individuals 14.12.2006, 1 individual 07.12.2006, 1 individual	summer-winter	**Phytophagous**. This species, which is more xerophilic, likes sandy and calcareous soils; is largely polyphagous. *Calluna, Artemisia, Sedum, Potentilla, Thymus, Verbascum, Teucrium* or in vegetative debris or bare ground hibernates as an adult (Péricart, 1999).
***Ischnopeza hirticornis* (Herrich-Schaeffer, 1850)**	13.10.2005, 2 individuals	winter	**Phytophagous**. They were collected on *Astragalus sp, Matricaria sp. Onopordum sp., Pinus sp., Quercus sp.*, weeds, on the ground and also understone (Lodos et al., 1999).
***Plinthisus longicollis* Fieber, 1861**	09.11.2005, 2 individuals 13.12.2005, 1 individual 27.12.2005, 1 individual 06.10.2005, 1 individual 07.12.2006, 1 individual 07.12.2006, 3 individuals	winter	**Phytophagous**. Polyphagous, they feed on seeds. Adults were collected on *Ballota sp., Pinus sp., Verbascum sp.,* Asteraceae species and on the ground (Lodos et al., 1999).
***Rhyparochromus vulgaris* (Schilling, 1829)**	13.10.2005, 1 individual	winter	**Phytophagous**. Deciduous trees, thicket land. Specimens were collected on *Asphodelus sp., Quercus sp., Triticum sp.,* understone and also on the ground (Lodos et al., 1999)
***Stygnocoris flugineus* (Geoffroy, 1785)**	13.12.2005, 3 individuals 07.12.2006, 1 individual 14.12.2006, 1 individual	winter	**Phytophagous**. This species is found on fallow soil rich in weeds. They insert and suck the seeds of different plants. It lays its eggs in the ground (Wachmann et al., 2007).
***Xanthochilus minusculus* (Reuter, 1885)**	13.10.2005, 2 individuals 07.12.2006, 1 individual	winter	**Phytophagous**. Polyphagous. It feeds on the seeds of different plants. *X. quadratus* inhabits plains, mostly sparsely grown, dry, warm, open rural habitats, lowlands, light, sandy soils mostly in mountainous areas, as well as rocky substrates. (Wachmann et al., 2007).
SCUTELLERIDAE			
***Odontotarsus robustus* Jakovlev, 1884**	13.12.2005, 1 individual 10.04.2006, 2 individuals	summer-winter	**Phytophagous**. *Sinapis sp., Trifolium argatum, Triticum sativa*, various Poaceae species, various weeds (Lodos et al., 1998). Poa sp., *Hordeum sp., Centaurea sp., Medicago sp.* (Dursun & Fent, 2010).
TINGIDAE			
***Catoplatus anticus* (Reuter, 1880)**	20.10.2005, 1 individual	winter	**Phytophagous**. Tamaricaceae (*Tamarix*) (Önder & Lodos, 1983)
***Dictyla rotundata* (Herrich-Schaffer, 1835)**	20.10.2005, 2 individuals	winter	Phytophagous. Boraginaceae (*Anchusa arvensis, A. officinalis, A. gmelinii, A. procera, Buglossoides arvense, Cynoglossum officinale, Echium, vulgare, E. rubrum, E. italicum, Nonnea sp., Pulmonaria molisima, Rindera tetraspis, Symphytum officinale*) (Péricart, 1983)

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Figure 1. Research area (Edirne-Balkan Campus).

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Research Article

Contribution to the Knowledge of the Fauna of the Alydidae, Anthocoridae, Berytidae, Coreidae, Cydnidae, Lygaeidae, Nabidae, Plataspidae, Pyrrhocoridae, Reduviidae, Rhopalidae, Scutelleridae, Stenocephalidae, Tingidae (Hemiptera: Heteroptera) with a new record of Çankırı Province in Türkiye

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ABSTRACT: This study was carried out in the Çankırı province between 2013 and 2014. In this study, 57 species from 14 families (Alydidae, Anthocoridae, Berytidae, Coreidae, Cydnidae, Lygaeidae, Nabidae, Plataspidae, Pyrrhocoridae, Reduviidae, Rhopalidae, Scutelleridae, Stenocephalidae, Tingidae) were recorded. Among them ***Metopoplax ditomoides*** **(A. Costa)** determined as new record for the fauna of Türkiye. Also, we confirm second record of ***Legnotus picipes*** **(Fallén)**, previously given only from Erzurum in Türkiye.

KEYWORDS: Heteroptera, Fauna, New record, Çankırı, Türkiye.

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INTRODUCTION

The order Hemiptera Linnaeus, 1758 ranks fifth in the world with 104,165 species after the orders Coleoptera, Diptera, Lepidoptera and Hymenoptera (Zhang, 2011). Heteroptera Latreille,1810 is a suborder of Hemiptera which contains 42,347 described species (Henry, 2009). The number of species listed from the Palaearctic Region increased from 8571 to 9365 in the period with the publication of the original six volumes (1995-2013) (Aukema & Rieger, 1995; 1996; 1999; 2001; 2006; 2013).

Türkiye has been known to possess a rich fauna of Heteroptera. Thus, many faunistic and systematic studies about the Heteroptera have been conducted by both foreign and native researchers in Türkiye. Some faunistic studies on this suborder in the Türkiye have been made by Horváth, 1901; Kiritshenko, 1918; Seidenstücker, 1954; Hoberlandt 1955; Linnavuori, 1965; Tuatay et al., 1972; Önder et al., 1984; Çakır & Önder, 1990; Kıyak et al., 2004; Önder et al., 2006; Dursun, 2009, 2011a, 2011b; Fent & Aktaç, 2009; Abacıgil et al., 2010; Dursun et al., 2010; Yıldırım et al., 2010, 2011, 2013a, 2013b, 2014a, 2014b; Fent & Japoshvili, 2012; Maral et al., 2013; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Dursun & Fent, 2009, 2015, 2017; Aysal & Kıvan, 2018; Çerçi et al., 2018; Yazıcı, 2019, 2022; Zengin & Dursun, 2019; Bolu, 2020; Akman & Dursun, 2021; Çerçi & Özgen, 2021; Kıyak & Baş, 2021; Yılmaz & Dursun, 2022; Fent & Dursun, 2022). In Türkiye, 1349 species from 469 genera from Heteroptera have been recorded so far. The type locality of 237 species are from Türkiye and 107 species and 4 subspecies are endemic to Türkiye (Dursun & Fent, 2017).

Studies on the Heteroptera in Türkiye, revealed are currently represented as Alydidae (8); Anthocoridae (41); Berytidae (24); Coreidae (50); Cydnidae (41); Lygaeidae (275); Nabidae (24); Plataspididae (7); Pyrrhocoridae (3); Reduviidae (65); Rhopalidae (30); Stenocephalidae (7) and Tingidae (89) Scutelleridae (40); (Tezcan, 2020).

Çankırı, which is the study province, is located between the Central Anatolian Geographical Region and the Black Sea Geographical Region, and therefore it contains the characteristics of both regions and constitutes a transition area. The lands of Çankırı Province are shared between the Western Black Sea Section of the Black Sea Region and the Central Kızılırmak Section of the Central Anatolia Region (Gökmen, 2007). Because of these features, it has a rich Heteroptera fauna. The aim of this study is to present new collection and biological data on Heteroptera in Çankırı. In this paper, 57 species of 43 genera belonging to 14 families from the suborder Heteroptera are recorded.

MATERIALS AND METHODS

The Heteroptera materials were collected from different localities in Çankırı province 2013-2014. Samples were collected using traps and/or mouth aspirator. Collected samples were taken into pre-prepared kill bottles containing 70% alcohol and killed. The available specimens for the present study are deposited in Gazi University (Türkiye: Ankara).

RESULTS

In this study, 57 species of 43 genera belonging to 14 families from the suborder Heteroptera were recorded from Türkiye.

Family ALYDIDAE Amyot & Serville, 1843
Subfamily: Alydinae Amyot & Serville, 1843

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Genus: *Alydus* Fabricius, 1803
***Alydus calcaratus* (Linnaeus, 1758)**
Cimex calcaratus Linnaeus, 1758; *Lygaeus tibialis* Fabricius, 1798; *Alydus hirsutus* Kolenati, 1845; *Alydus atratus* Motschulsky, 1860; *Alydus pluto* Uhler, 1872; *Alydus calcaratus* var. *ater* Jakovlev, 1876.

Material examined: Çankırı prov.: Çerkeş, between Yıprak-Tohumluk Villages, 40˚55′1″ N, 32˚48′34″E, 1153 m 26.VIII.2013, 2 ♂♂; Çerkeş, Çakmak Village entrance, 40˚58′16″N, 33˚1′4″ E, 1523 m 27.VIII.2013, ♂.
Previous records: Adana, Amasya, Ankara, Artvin, Balıkesir, Bayburt, Çankırı, Çorum, Erzurum, Giresun, İzmir, Kars, Kastamonu, Kayseri, Tokat, Trabzon (Önder et al., 2006; Dursun, 2009; Dursun et al., 2010; Yıldırım et al., 2011, 2013a; Fent & Japoshvili, 2012; Küçükbasmacı & Kıyak, 2015; Zengin & Dursun, 2019; Akman & Dursun, 2021; Kıyak & Baş, 2021).

Genus: *Camptopus* Amyot & Serville, 1843
***Camptopus lateralis* (Germar, 1817)**
Alydus lateralis Germar, 1817; *Alydus annulatus* Brullé, 1832; *Alydus geranii* Dufour, 1833 *Alydus marginalis* Herrich-Schaeffer, 1835; *Alydus occipes* Herrich-Schaeffer, 1835; *Alydus brevipes* Herrich-Schaeffer, 1840; *Alydus undulatus* Westwood, 1842; *Camptopus lateralis* var. *obscurus* Reuter, 1890.
Material examined: Çankırı Prov.: Yapraklı, Söğütlü village, 40˚40′ 38″ N, 33˚57′41″E, 1376 m 24.VII.2013, ♀, ♂.
Previous records: Adıyaman, Ağrı, Amasya, Ankara, Antalya, Ardahan, Artvin, Balıkesir, Bayburt, Bingöl, Bolu, Çankırı, Çorum, Diyarbakır, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Gümüşhane, Hatay, Iğdır, Isparta, İstanbul, Kars, Kastamonu, Kayseri, Konya, Malatya, Manisa, Mersin, Muğla, Muş, Nevşehir, Niğde, Sivas, Tokat, Tunceli, Van (Linnavuori, 1965; Lodos et al., 1984; Kıyak et al., 2004; Dursun, 2009; Dursun et al., 2010; Yıldırım et al., 2011, 2013a; Fent & Japoshvili, 2012; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Çerçi et al., 2018; Zengin & Dursun, 2019; Bolu, 2020; Akman & Dursun, 2021; Bulak & Yıldırım, 2021; Çerçi & Özgen, 2021; Kıyak & Baş, 2021).

Family ANTHOCORIDAE Fieber, 1836
Subfamily: Anthocorinae Fieber, 1836
Tribe: Anthocorini Fieber, 1836

Genus: *Anthocoris* Fallén
***Anthocoris nemoralis* (Fabricius, 1794)**
Acanthia nemoralis Fabricius, 1794; *Cimex triguttatus* Schrank, 1796; *Lygaeus austriacus* Fabricius, 1803; *Anthocoris nemoralis* var. *superbus* Westhoff, 1881; *Anthocoris dohrni* Le Quesne, 1958; *Anthocoris pemphigi* Wagner, 1960.
Material examined: Çankırı Prov.: Yapraklı, Yakadere village, 40˚41′25″N, 33˚48′56″E, 1030 m, 24.VII.2013, ♂; Bayramören, between Pirinçli and Sazak Village, 40˚58′20″N, 33˚4′47″E, 1630 m, 27.VIII.2013, ♀.
Previous records: Ankara, Antalya, Bartın, Bolu, Erzincan, Erzurum, Kayseri, Mardin, Mersin (Hoberlandt, 1955; Linnavuori, 1965; Yıldırım et al., 2013b; Matocq et al., 2014; Yazıcı, 2019, 2022).

Family: BERYTIDAE Fieber, 1851
Subfamily: Berytinae Fieber, 1851
Tribe: Berytini Fieber, 1851

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Genus: *Berytinus* Kirkaldy, 1900
***Berytinus* (*Berytinus*) *clavipes* (Fabricius, 1775)**
Cimex clavipes Fabricius, 1775; *Cimex suecicus* Gmelin, 1790; *Berytus caucasicus* Kolenati, 1845; *Berytus angustipennis* A. Costa, 1858; *Berytus vittatus* Fieber, 1859; *Berytus stettinensis* Dohrn, 1860; *Berytus* (*Xanthocerus*) *longicollis* Mulsant & Rey, 1870; *Berytinus longiceps* Wagner, 1966.
Material examined: Çankırı prov.: Kurşunlu, Çaylıca village exit, 40˚54' 31″ N, 33˚14'52″E, 1316 m, 22.IV.2013, ♂.
Previous records: Diyarbakır (Lodos et al., 1984; Bolu, 2020).

Family: COREIDAE Leach, 1815
Subfamily: Coreinae Leach, 1815
Tribe: Coreini Leach, 1815

Genus: *Centrocoris* Kolenoti, 1845
***Centrocoris spiniger* (Fabricius, 1781)**
Cimex spiniger Fabricius, 1781; *Cimex branderi* Linnaeus, 1767; *Centrocoris pallescens* Kolenati, 1845; *Centrocoris spiniger race subinermis* Rey, 1887; *Centrocoris bampurensis* Linnavuori, 1968.
Material examined: Çankırı Prov.: Yapraklı, Söğütlü village, 40˚40′38″N, 33˚57′41″E, 1376 m, 24.VII.2013, ♀**.**
Previous records: Adana, Adıyaman, Amasya, Ankara, Antalya, Artvin, Balıkesir, Bursa, Çanakkale, Çorum, Diyarbakır, Edirne, Erzincan, Erzurum, Giresun, Hatay, Iğdır, Isparta, İstanbul, İzmir, Kars, Kayseri, Konya, Mardin, Mersin, Muğla Nevşehir, Sivas, Şanlıurfa, Tokat, Tunceli (Linnavuori, 1965; Kıyak et al., 2004; Önder et al., 2006; Dursun & Fent, 2009; Dursun, 2011b; Yıldırım et al., 2011, 2013a; Matocq et al., 2014; Zengin & Dursun, 2019; Bolu, 2020; Akman & Dursun, 2021; Kıyak & Baş, 2021).

Genus: *Coreus* Fabricius, 1794
***Coreus marginatus* (Linnaeus, 1758)**
Cimex marginatus Linnaeus, 1758; *Cimex auriculatus* De Geer, 1773; *Cimex rostratus* Goeze, 1778; *Copium serratum* Thunberg, 1825; *Coreus fundator* Herrich-Schaeffer, 1833; *Syromastes longicornis* A. Costa, 1842; *Coreus marginatus* var. *inermis* Kolenati, 1845; *Syromastes marginatus* var. *SYcus* Blöte, 1935.
Material examined: Çankırı Prov.: Eldivan, Eldivan entry, 40˚32'25″N, 33˚30'18″E, 922 m, 23.IV.2013, 3 ♀♀; Bayramören, between pirinçli and Sazak village, 40˚58′20″N, 33˚4′47″E, 1630 m, 27.VIII.2013, ♀; Bayramören, Göynükören village, Hasanlar District, 41˚0′55″N, 33˚8′12″E, 1100 m, 27.VIII.2013, 2 ♀♀; Çerkeş, between Kadılar-Dikenli Plateau, 40˚47′35″N, 32˚44′35″E, 1449 m, 28.VIII.2013, ♀, 2 ♂♂; Çerkeş, between Dere and Suluk plateau, 40˚42′44″N, 32˚52′56″E, 1422 m, 29.VIII.2013, ♀.
Previous records: Adana, Ağrı, Amasya, Ankara, Antalya, Ardahan, Artvin, Aydın, Balıkesir, Bartın, Bayburt, Bilecik, Bingöl, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Gümüşhane, Hatay, İstanbul, İzmir, Kars, Kastamonu, Kayseri, Kırşehir, Kocaeli, Malatya, Mardin, Mersin, Muğla, Muş, Osmaniye, Rize, Samsun, Sinop, Tokat, Trabzon, Tunceli (Horváth, 1901; Kiritshenko, 1924; Hoberlandt, 1955; Önder et al., 2006; Dursun & Fent, 2009; Yıldırım et al., 2011, 2013a; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Fent & Dursun, 2019; Zengin & Dursun, 2019; Akman & Dursun, 2021; Çerçi & Özgen, 2021; Kıyak & Baş, 2021; Yazıcı, 2022).

Genus: *Spathocera* Stein, 1860
***Spathocera lobata* (Herrich-Schaeffer, 1840)**

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Pseudophloeus lobatus Herrich-Schaeffer, 1840.
Material examined: Çankırı Prov.: Ilgaz, Belören, 40˚52′11″N, 33˚29′39″E, 1543 m, 25.VII.2013, ♀.
Previous records: Bursa, Çorum, Erzurum, Kars, Kırklareli, Konya, Van (Önder et al., 2006; Dursun, 2011b; Yıldırım et al., 2011, 2013a; Dursun & Fent, 2015; Akman & Dursun, 2021).

Genus: *Syromastus* Berthold, 1827
***Syromastus rhombeus* (Linnaeus, 1767)**
Cimex rhombeus Linnaeus, 1767; *Cimex quadratus* Fabricius, 1775; *Verlusia sinuata* Fieber, 1861; *Verlusia rhombea* var. *fusca* Vidal, 1936.
Material examined: Çankırı Prov.: Ilgaz, Belören, 40˚52′11″N, 33˚29′39″E, 1543 m, 25.07.2013, ♂; Çerkeş, between Yıprak-Tohumlar villages, 40˚55′1″N, 32˚48′34″E, 1153 m, 26.08.2013, ♀.
Previous records: Adana, Ağrı, Amasya, Ankara, Artvin, Aydın, Balıkesir, Burdur, Bursa, Çankırı, Çorum, Edirne, Elazığ, Erzurum, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Kars, Kayseri, Kastamonu, Manisa, Mersin, Nevşehir, Sivas, Sinop, Tokat, Van (Horváth, 1883, 1901; Kiritshenko, 1918, 1924; Hoberlandt, 1955; Linnavuori, 1965; Tuatay et al., 1972; Kıyak et al., 2004; Önder et al., 2006; Dursun & Fent, 2009; Dursun, 2011b; Yıldırım et al., 2011, 2013a; Çerçi et al., 2018; Fent & Dursun, 2019; Zengin &Dursun, 2019; Akman & Dursun, 2021; Kıyak & Baş, 2021; Yazıcı, 2022).

Subfamily: Pseudophloeinae Stal, 1868
Tribe: Pseudophloeini Stal, 1873

Genus: *Coriomeris* Westwood, 1842
***Coriomeris denticulatus* (Scopoli, 1763)**
Cimex denticulatus Scopoli, 1763; *Cimex spinosulus* Sulzer, 1776; *Coreus pilicornis* Burmeister, 1835; *Coreus wolfi* Gorski, 1852; *Coriomeris denticulatus* var. *granulatus* Cerutti, 1937.
Material examined: Çankırı Prov.: Yapraklı, Söğütlü village, 40˚40′38″N, 33˚57′41″E, 1376 m, 24.VII.2013, ♀; Ilgaz, Belören, 40˚52′11″N, 33˚29′39″E, 1543 m, 25.VII.2013, ♀.
Previous records: Adana, Ağrı, Amasya, Ankara, Aydın, Balıkesir, Bursa, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Erzurum, Giresun, Hatay, Iğdır, Isparta, İzmir, Kars, Kayseri, Konya, Mersin, Sivas, Tokat (Kiritshenko, 1918; Linnavuori, 1965; Önder et al., 2006; Dursun & Fent, 2009; Dursun, 2011b; Fent & Japoshvili, 2012; Yıldırım et al., 2013a; Zengin & Dursun, 2019; Bolu, 2020; Akman & Dursun, 2021; Bulak & Yıldırım, 2021; Kıyak & Baş, 2021).

Family CYDNIDAE Bilberg, 1820
Subfamily: Sehirinae Amyot & Serville, 1843
Tribe: Sehirini Amyot & Serville, 1843

Genus: *Canthophorus* Mulsant & Rey, 1866
***Canthophorus melanopterus melanopterus* (Herrich-Schaeffer, 1835)**
Cydnus melanopterus Herrich-Schaeffer, 1835
Material examined: Çankırı prov.: Korgun, between Karatekin and Yolkaya village, 40˚41'30″ N, 33˚29'20″E, 957 m, 22.04.2013, ♀.
Previous records: Erzurum, İstanbul, Kırklareli (Fent & Aktaç, 2009; Yazıcı et al., 2015a).

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Genus: *Legnotus* Schiodte, 1848
***Legnotus picipes* (Fallén, 1807)**
Cydnus picipes Fallén, 1807; *Gnathoconus costalis* Fieber, 1861; *Gnathoconus concolor* var. *cyaneonitens* Ferrari, 1874.
Material examined: Çankırı prov.: Kalecik-Çankırı provincial border D-765 Highway, 40˚21′28″N, 33˚31′0″E, 701 m, 21.IV.2013, ♂.
Previous records: Erzurum (Yazıcı et al., 2015a).
Genus: *Ochetostethus* Fieber, 1860
***Ochetostethus opacus* (Scholtz, 1847)**
Cydnus opacus Scholtz, 1847.
Material examined: Çankırı Prov.: 2. km from Çankırı exit to Yapraklı, 40˚35′57″N, 33˚37′12″E, 730 m, 23.VII.2013, ♀.
Previous records: Adana, Antalya, Çorum, Edirne, Erzurum Gaziantep, İzmir, Kahramanmaraş, Karaman, Kayseri, Konya, Manisa, Mersin, Osmaniye, Tekirdağ (Önder et al., 2006; Fent & Aktaç, 2009; Yazıcı et al., 2015a; Yazıcı, 2022).

Genus: *Sehirus* Amyot & Serville, 1843
***Sehirus dissimilis* Horváth, 1919**
Sehirus dissimilis Horváth, 1919.
Material examined: Çankırı Prov.: Korgun, Ildızım village entry, 40˚42'31″N, 33˚28'3″E, 1031 m, 23.04.2013, ♀.
Previous records: Ardahan, Erzurum, Kahramanmaraş (Önder et al., 2006; Yazıcı et al., 2015a).

***Genus: Tritomegas* Amyot & Serville, 1843**
***Tritomegas sexmaculatus* (Rambur, 1839)**
Cydnus sexmaculatus Rambur, 1839
Material examined: Çankırı Prov.: Eldivan, Eldivan entry, 40˚32'25″N, 33˚30'18″E, 922 m, 23.IV.2013, ♀.
Previous records: Adana, Ankara, Aradahan, Edirne, Erzurum, İstanbul, Kırklareli, Mersin, Samsun, Tekirdağ (Hoberlandt, 1955; Fent & Aktaç, 2009; Yazıcı et al., 2015a).

Family: LYGAEIDAE Schilling, 1829
Subfamily: Cyminae Boerensprung, 1860
Tribe: Cymini Boerensprung, 1860

Genus: *Cymus* Hahn, 1832
***Cymus melanocephalus* Fieber, 1861**
Cymus melanocephalus Fieber, 1861
Material examined: Çankırı Prov.: Çerkeş, Akbaş village, 40˚ 53’ 26” N, 32˚ 49’ 36” E, 1230 m 25.08.2013, 2 ♀♀, ♂; Şabanözü, Gümerdiğin, 40˚26'40"N, 33˚17'2"E, 990 m 24.04.2013, ♀.

Previous records: Adana, Ankara, Antalya, Bartın, Bayburt, Bolu, Bursa, Çanakkale, Edirne, Erzincan, Erzurum, Gaziantep, Hatay, İstanbul, İzmir, Kahramanmaraş, Kastamonu, Kırşehir, Kocaeli, Konya, Mersin, Muğla, Nevşehir, Niğde, Ordu, Sinop, Sivas, Yozgat, Zonguldak, (Lodos et al., 1999; Kıyak et al., 2004; Önder et al., 2006; Yazıcı et al., 2015).

Genus: *Geocoris* Fallén, 1814
***Geocoris (Piocoris) erythrocephalus* (Lepelletier & Serville, 1825)**
Salda erythrocephala Lepeletier & Serville, 1825; *Cimex grylloides* Linnaeus, 1767; *Ophthalmicus frontalis* Herrich-Schaeffer, 1837; *Salda orsiniana* A. Costa, 1839;

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Geocoris erythrocephalus var. *litoreus* Horváth, 1895.
Material examined: Çankırı Prov.: Çerkeş, between Türbaşı and Dağçukurören village, 40˚44′39″N, 32˚50′14″E, 1271 m, 29.08.2013, 1♀.
Previous records: Adana, Afyonkarahisar, Amasya, Ankara, Antalya, Aydın, Balıkesir, Bartın, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Gümüşhane, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Konya, Kütahya, Malatya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Niğde, Siirt, Şanlıurfa, Tekirdağ, Trabzon, Uşak, Yozgat, Zonguldak (Hoberlandt, 1955; Çakır & Önder, 1990; Kıyak et al., 2004; Matocq et al., 2014; Yazıcı et al., 2015b; Çerçi et al., 2018; Yazıcı, 2019; Çerçi & Özgen, 2021; Yılmaz & Dursun, 2022).

Subfamily: Lygaeinae Schilling, 1829

Genus: *Lygaeus* Fabricius, 1794
***Lygaeus equestris* (Linnaeus, 1758)**
Cimex equestris Linnaeus, 1758; *Cimex speciosus* Poda, 1761; *Cimex hyosciami* (non Linnaeus, 1758); *Cimex punctumalbum* Pollich, 1781; *Lygaeus equestris* var. *lactans* Horváth, 1899.
Material examined: Çankırı Prov.: Korgun, Yukarıçavuş village, 40˚42'22″N, 33˚38'59″E, 940 m, 21.IV.2013, ♀; Korgun, Akçavakıf, 40˚41'40″N, 33˚33'37″E, 826 m, 22.IV.2013, 2 ♀♀; Korgun, Yolkaya village, 40˚40'41″N, 33˚27'33″E, 995 m 22.IV.2013, 3 ♀♀, 5 ♂♂; Ilgaz, Yaylaören village distinction, 40˚52'42″N, 33˚30'31″E, 914 m, 22.IV.2013, 3 ♀♀, 2 ♂♂; Eldivan, Eldivan entrance, 40˚32'25″N, 33˚30'18″E, 922 m 23.IV.2013, ♀; Ilgaz, Belören, 40˚52′11″N, 33˚29′39″E, 1543 m, 25.VII.2013, ♂; Ilgaz, Eskikiymık village entrance, 41˚0′19″N, 33˚41′15″E, 1230 m, 26.VII.2013, 3 ♀♀, ♂; Kurşunlu, between Madenli village and Çaylıca, 40˚56′23″N, 33˚12′24″E, 900 m, 27.VII.2013, ♂; Atkaracalar, Höyük village, 40˚48′28″N, 33˚3′47″E, 1239 m, 27.VII.2013, ♂; Atkaracalar, between Budakpınarı and Yakalı villages,40˚53′26″N, 33˚8′58″E, 1314 m, 25.VIII.2013, ♂; Çerkeş, Aliözü village exit (towards the highway), 40˚49′40″N, 32˚56′49″E, 1231 m, 26.VIII.2013, ♀; Bayramören, between pirinçli and Sazak village, 40˚58′20″N, 33˚4′47″E, 1630 m, 27.VIII.2013, ♂; Çerkeş, between Kadılar and Dikenli plateau, 40˚47′35″N, 32˚44′35″E, 1449 m, 28.VIII.2013, 2 ♀♀, 2 ♂♂; Çerkeş, between Kısaç and Bozcaarmut villages, 40˚41′35″N, 32˚50′27″E, 1600 m, 29.VIII.2013, 2 ♀♀; Çerkeş, between Dere and Suluk plateau, 40˚42′44″N, 32˚52′56″E, 1422 m, 29.VIII.2013, ♀, ♂.
Previous records: Adana, Afyon, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Bingöl, Çankırı, Denizli, Diyarbakır, Elazığ, Erzincan, Erzurum, Giresun, Hayat, Iğdır, Isparta, İstanbul, Kahramanmaraş, Karabük, Kars, Kastamonu, Konya, Malatya, Manisa, Mersin, Nevşehir, Osmaniye, Rize, Sivas, Trabzon, Tunceli (Horváth, 1901; Linnavuori, 1965; Kıyak et al., 2004; Fent & Japoshvili, 2012; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Yazıcı et al., 2015b; Çerçi et al., 2018; Bolu, 2020; Çerçi & Özgen, 2021).

Genus: *Spilostethus* Stål, 1868
***Spilostethus saxatilis* (Scopoli, 1763)**
Cimex saxatilis Scopoli, 1763; *Cimex tessellatus* Goeze, 1778; *Lygaeus lusitanicus* Herrich-Schaeffer, 1850; *Lygaeus saxatilis* var. *montivagus* Horváth, 1899; *Spilostethus* (*Lygaeus*) *saxatilis* f. *juncta* Priesner, 1927; *Spilostethus* (*Lygaeus*) *saxatilis* f. *rupta* Priesner, 1927; *Lygaeus saxatilis* f. *montana* Tamanini, 1961; *Lygaeus saxatilis* f. *citrina* Tamanini, 1961.
Material examined: Çankırı Prov.: Ilgaz, Ilgaz exit-Gırcen, 40˚54'55″N,

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33°37'41″E, 887 m, 22.IV.2013, ♀.
Previous records: Adana, Aksaray, Ankara, Ardahan, Balıkesir, Burdur, Diyarbakır, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Kars, Kastamonu, Konya, Malatya, Mersin, Nevşehir, Sivas, Tunceli, Yozgat (Hoberlandt, 1955; Kıyak et al., 2004; Fent & Japoshvili, 2012; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Yazıcı et al., 2015b; Çerçi et al., 2018; Bolu, 2020; Çerçi & Özgen, 2021; Yazıcı, 2022).

Genus: *Tropidothorax* Bergroth, 1894
***Tropidothorax leucopterus* (Goeze, 1778)**
Cimex leucopterus Goeze, 1778; *Cimex familiaris* Fabricius, 1781; *Cimex stellifer* Geoffroy in Fourcroy, 1785; *Cimex raii* Turton, 1802; *Lygaeus venustus* Herrich-Schaeffer, 1835; *Lygaeus simla* Distant, 1909; *Lygaeus familiaris* var. *aurantiaca* Thierry-Mieg, 1913; *Lygaeus familiaris* var. *flavina* Thierry-Mieg, 1913; *Lygaeus leucopterus* var. *incarnatus* Seabra, 1924.
Material examined: Çankırı Prov.: Kalecik-Çankırı provincial border D-765 Highway, 40°21′28″N, 33°31′0″E, 701 m, 21.IV.2013, ♀.
Previous records: Ankara, Antalya, Artvin, Bursa, Çorum, Erzincan, Erzurum, Iğdır, Kastamonu, Konya, Manisa, Niğde, Zonguldak (Önder et al., 2006; Yazıcı et al., 2015b; Yazıcı, 2022)

Subfamily: Oxycareninae Stål, 1862

Genus: *Metopoplax* Fieber, 1860
***Metopoplax ditomoides* (A. Costa, 1847)**
Pachymerus ditomoides A. Costa, 1847
Material examined: Çankırı Prov.: Şabanözü, 3. km between Şabanözü-Eldivan road, 40°28'48″N, 33°18'37″E, 1141 m, 24.IV.2013, ♀.
Previous records: New record for Türkiye fauna.

Subfamily: Oxycareninae Stål, 1862
Tribe: Rhyparochromini Amyot & Serville, 1843

Genus: *Raglius* Stål, 1872
***Raglius alboacuminatus* (Goeze, 1778)**
Cimex alboacuminatus Goeze, 1778; *Cimex caffer* Thunberg, 1784; *Cimex apicaris* Geoffroy in Fourcroy, 1785; *Cimex cinereus* Gmelin, 1790; *Cimex bardanae* Preyssler, 1791; *Lygaeus pedestris* Panzer, 1797; *Pachymerus insignis* Boheman, 1852; *Rhyparochromus mundulus* Dohrn, 1860; *Rhyparochromus concinnulus* Walker, 1872; *Pachymerus pedestris* var. *funerea* Puton, 1878; *Pachymerus bardanae* var. *flavatus* Horváth, 1882; *Aphanus alboacuminatus* var. *bicolor* Horváth, 1911; *Rhyparochromus alboacuminatus* f. *immaculata* Michalk, 1938; *Rhyparochromus alboacuminatus* f. *nigra* Michalk, 1938; *Rhyparochromus alboacuminatus* f. *implagiata* Stichel, 1962.
Material examined: Çankırı Prov.: Çerkeş, Forest area ahead of Quail Plateau, 40°39′10″N, 32°52′4″E, 1800 m, 29.VIII.2013, ♂.
Previous records: Balıkesir, Muş (Abacıgil et al., 2010; Çerçi et al., 2018).

Genus: *Rhyparochromus* Hahn, 1826
***Rhyparochromus sanguineus* (Douglas & Scott, 1868)**
Calyptonotus sanguineus Douglas & Scott, 1868
Material examined: Çankırı Prov.: Atkaracalar, Höyük village, 40°48′28″N, 33°3′47″E, 1239 m, 27.VII.2013, ♂.

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Previous records: Bingöl, Diyarbakır, Erzincan, Erzurum, Mardin, Tunceli (Matocq et al., 2014; Yazıcı et al., 2015b; Çerçi et al., 2018).

Rhyparochromus vulgaris **(Schilling, 1829)**
Pachymerus vulgaris Schilling, 1829; *Lygaeus pini* (non Linnaeus, 1758): Wolff, 1801; *Aphanus vulgaris* var. *homoeopus* Horváth, 1899
Material examined: Çankırı Prov.: Çerkeş, Kuzuören village, 40˚53′35″N, 32˚52′32″E, 1304 m, 25.VIII.2013, ♂; Çerkeş, between Yakuplar and Örenköy, 40˚44′44″N, 32˚52′25″E, 1301 m, 29.VIII.2013, ♀.
Previous records: Adana, Ankara, Aydın, Balıkesir, Bursa, Çanakkale, Edirne, Erzincan, Erzurum, Hatay, İzmir, Kütahya, Manisa, Mersin, Muğla, Tunceli, Uşak (Önder et al., 2006; Fent & Japoshvili, 2012; Yazıcı et al., 2015b).

Genus: *Xanthochilus* Stål, 1872
Xanthochilus minusculus **(Reuter, 1885)**
Pachymerus (*Xanthochilus*) *minusculus* Reuter, 1885; *Pachymerus* (*Xanthochilus*) *reuteri* Horváth, 1885.
Material examined: Çankırı Prov.: Çerkeş, between Kadılar – Dikenli Plateau, 40˚47′35″N, 32˚44′35″E, 1449 m, 28.VIII.2013, ♀.
Previous records: Elazığ, Siirt (Matocq et al., 2014; Bolu, 2020; Çerçi & Özgen, 2021).

Family NABIDAE Costa, 1853
Subfamily: Prostemmatinae Reuter, 1890
Tribe: Prostemmatini Reuter, 1890

Genus: *Prostemma* Laporte, 1832
Subgenus: *Prostemma* Laporte,1832
Prostemma (Prostemma) guttula guttula **(Fabricius, 1787)**
Reduvius guttula Fabricius, 1787; *Cimex staphylinus* Gmelin, 1790; *Prostemma brachelytrum* Dufour, 1834; *Prostemma fuscipenne* Mulsant & Rey, 1873.
Material examined: Çankırı Prov.: Çerkeş, Kuzuören village, 40˚53′35″N, 32˚52′32″E, 1304 m, 25.VIII.2013, ♀.
Previous records: Thrace region (Fent & Japoshvili, 2012).

Subfamily: Nabinae A. Costa, 1853
Tribe: Nabini A. Costa, 1853

Genus: *Nabis* Latreille,1802
Subgenus: *Nabis* Latreille,1802
Nabis **(*Nabis*)** ***pseudoferus pseudoferus*** **Remane, 1949**
Nabis pseudoferus Remane, 1949; *Nabis pseudoferus* f. *maculatus* Remane, 1949.
Material examined: Çankırı Prov.: Eldivan, Maruf village, 40˚38'26″N, 33˚25'59″E, 1196 m, 23.IV.2013, ♀; Eldivan, Eldivan entry, 40˚32'25″N, 33˚30'18″E, 922 m, 23.IV.2013, 2 ♀♀, 2 ♂♂; Çankırı, Orta, Yaylakent Town distinction, 40˚36'28″N, 33˚7'17″E, 1257 m, 24.IV.2013, ♂; Şabanözü, Gümerdiğin, 40˚26'40″N, 33˚17'2″E, 990 m, 24.IV.2013, ♀; Çankırı, Merkez, Hasakça village distinction, 40˚39'59″N, 33˚44′28″E, 863 m, 24.VII.2013, ♂; Ilgaz, Yuvasaray village entry, 40˚52′26″N, 33˚44′36″E, 902 m 25.VII.2013, 2 ♀♀, 4 ♂♂; Ilgaz, Yuvasaray village exit 4. km from Yukarioz, 40˚52′8″N, 33˚46′27″E, 1101 m, 25.VII.2013, 2 ♀♀; Çerkeş, Yoncalı village return, 40˚42′13″N, 32˚46′26″E, 1314 m 27.VII.2013, ♂; Çerkeş, Forest area beyond Yeşilören village, 40˚47′32″N, 32˚35′12″E, 1597 m, 28.VIII.2013, ♀; Çerkeş, Dağçukurören village, 40˚44′32″N, 32˚50′17″E, 1271 m, 29.08.2013, 2 ♂♂; Çerkeş,

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between Yakuplar- Örenköy, 40°44′44″N, 32°52′25″E, 1301 m 29.VIII.2013, ♀.
Previous records: Adana, Adıyaman, Amasya, Ankara, Artvin, Bartın, Bayburt, Edirne, Erzincan, Erzurum, Giresun, Gümüşhane, Iğdır, Kars, Kastamonu, Sivas, Tokat, Trabzon (Hoberlandt, 1955; Tuatay et al., 1972; Önder et al., 2006; Dursun, 2011a; Yıldırım et al., 2013b; Küçükbasmacı & Kıyak, 2015; Yazıcı, 2022).

***Nabis (Nabis) rugosus* (Linnaeus, 1758)**
Cimex rugosus Linnaeus, 1758; *Cimex conicus* Goeze, 1778; *Nabis fuminervis* Dahlbom, 1851; *Nabis rugosus* var. *nervosus* Rey, 1893; *Reduviolus rugosus* var. *pallididorsum* Reuter, 1908.
Material examined: Çankırı Prov.: Ilgaz, Ilgaz exit-Gırcen, 40°54'55″N, 33°37'41″E, 887 m, 22.IV.2013, ♀; Orta, Return to Yaylakent town, 40°36'28″N, 33°7'17″E, 1257 m 24.IV.2013, ♂.
Previous records: Ardahan, Artvin, Aydın, Bolu, Burdur, Çankırı, Çorum, Edirne, Elazığ, Giresun, Gümüşhane, İzmir, Kars, Kocaeli, Samsun, Tokat, Zonguldak (Kiritshenko, 1918; Önder et al., 2006; Dursun, 2011a).

Family PLATASPIDAE Dallas, 1851
Subfamily: Coptosomatinae Kirkaldy, 1909

Genus: *Coptosoma* Laporte, 1833
***Coptosoma scutellatum* (Geoffroy, 1785)**
Cimex scutellatus Geoffroy in Fourcroy, 1785; *Cimex scarabaeoides* (non Linnaeus, 1758): Sulzer, 1761; *Cimex globus* Fabricius, 1794; *Coptosoma dilatata* Motschulsky, 1860; *Coptosoma anatolica* Horváth, 1883; *Coptosoma scutellatum* f. *violacea* Davidová-Vilímová & Štys, 1980.
Material examined: Çankırı Prov.: Kızılırmak, between Yukarıalagöz and Alaca Village, 40°22′28″N, 33°54′54″E, 619 m, 25.IV.2014, ♀**.**
Previous records: Ankara, Bayburt, Çanakkale, Edirne, Erzincan, Erzurum, İstanbul, Kahramanmaraş, Kırklareli, Nevşehir, Tekirdağ (Horváth, 1901; Hoberlandt, 1955; Kıyak et al., 2004; Fent & Aktaç, 2009; Yıldırım et al., 2014b).

Family: PYRRHOCORIDAE Fieber, 1860

Genus: *Pyrrhocoris* Fallén, 1814
***Pyrrhocoris apterus* (Linnaeus, 1758)**
Cimex apterus Linnaeus, 1758; *Cimex gregarius* Goeze, 1778; *Pyrrhocoris calmariensis* Fallén, 1829; *Pyrrhocoris sordidus* Jakovlev, 1880; *Pyrrhocoris apterus* var. *membranacea* Westhoff, 1884; *Pyrrhocoris apterus* var. *pennata* Westhoff, 1884; *Pyrrhocoris apterus* var. *carbonarius* Horváth, 1895; *Pyrrhocoris apterus* f. *cor* Schulze, 1917; *Pyrrhocoris apterus* f. *crassipuncta* Schulze, 1917; *Pyrrhocoris apterus* f. *strigata* Schulze, 1917; *Pyrrhocoris apterus* f. *radiata* Schulze, 1917; *Pyrrhocoris apterus* var. *hilaris* Horváth, 1917; *Pyrrhocoris apterus* var. *lagenifer* Horváth, 1917; *Pyrrhocoris apterus* f. *citrina* Schumacher, 1918; *Pyrrhocoris apterus* f. *inaequalis* Stichel, 1925; *Pyrrhocoris apterus* f. *punctella* Stichel, 1925; *Pyrrhocoris apterus* f. *trifida* Stichel, 1925; *Pyrrhocoris apterus* f. *sexpunctata* Priesner, 1927; *Pyrrhocoris apterus* f. *gigas* Kormilev, 1939; *Pyrrhocoris apterus* f. *ochracea* Wagner, 1948; *Pyrrhocoris apterus* f. *vacata* Stichel, 1959; *Pyrrhocoris pseudoapterus* Ahmad & Perveen, 1986.
Material examined: Çankırı Prov.: Kalecik-Çankırı provincial border D-765 Highway, 40°21′28″N, 33°31′0″E, 701 m, 21.IV.2013, 2 ♀♀; Eldivan, Eldivan entry, 40°32'25″N, 33°30'18″E, 922 m, 23.IV.2013, ♀; 2 km from Çankırı exit to Yapraklı, 40°35′57″N, 33°37′12″E, 730 m, 23.VII.2013, ♂.

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Previous records: Adana, Adıyaman, Ağrı, Ankara, Antalya, Ardahan, Artvin, Aydın, Bayburt, Bilecik, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Giresun, Hatay, Iğdır, Isparta, İstanbul, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Konya, Malatya, Mardin, Mersin, Muğla, Nevşehir, Niğde, Sakarya, Siirt, Sivas, Şanlıurfa, Tokat, Trabzon (Horváth, 1901; Hoberlandt, 1955; Kıyak et al., 2004; Önder et al., 2006; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Yıldırım et al., 2015b; Bolu, 2020; Yazıcı, 2022).

***Pyrrhocoris marginatus* (Kolenati, 1845)**
Platygaster marginatus Kolenati, 1845
Material examined: Çankırı Prov.: Çerkeş, On the road between Kadıözü and Aliözü villages, 40˚49′26″N, 32˚57′49″E, 1257 m, 26.VIII.2013, ♀.
Previous records: Ankara, Erzurum, Hatay, Kahramanmaraş, Kayseri (Önder et al., 2006; Yazıcı et al., 2015b).

Family REDUVIIDAE Latreille, 1807
Subfamily: Harpactrorinae Amyot & Serville, 1843
Tribe: Harpactorini Amyot & Serville, 1843

Genus: *Rhynocoris* Hahn, 1853
Subgenus: *Rhynocoris* Hahn, 1853
***Rhynocoris punctiventris* (Herrich-Schaeffer, 1846)**
Harpactor punctiventris Herrich-Schaeffer, 1846; *Harpactor variegatus* Fieber, 1861; *Rhinocoris punctiventris* f. *uniannulata* Stichel in Dispons & Stichel, 1959; *Rhinocoris punctiventris* var. *dimidiatus* Dispons, 1964.
Material examined: Çankırı Prov.: 2 km from Çankırı exit to Yapraklı**,** 40˚35′57″N, 33˚37′12″E, 730 m, 23.VII.2013, ♀.
Previous records: Adana, Adıyaman, Antalya, Ardahan, Artvin, Aydın, Balıkesir, Bayburt, Bingöl, Çankırı, Diyarbakır, Elazığ, Erzincan, Erzurum, Hatay, Iğdır, İstanbul, İzmir, Kars, Kastamonu, Konya, Malatya, Manisa, Mersin, Muğla, Nevşehir, Niğde, Osmaniye, Rize, Şanlıurfa, Tunceli (Linnavuori, 1965; Kıyak et al., 2004; Yıldırım et al., 2010, 2013b; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Çerçi et al., 2018; Bolu, 2020).

Genus: *Sphedanolestes,* Stål, 1867
Subgenus: *Sphedanolestes* Stål, 1867
***Sphedanolestes (Sphedanolestes) pulchellus* (Klug, 1830)**
Reduvius pulchellus Klug, 1830; *Harpactor hedenborgi* Stål, 1855; *Sphedanolestes dorchymonti* Dispons, 1968.
Material examined: Çankırı Prov.: Ilgaz, Yuvasaray village exit 4. km from Yukarıoz, 40˚52′8″N, 33˚46′27″E, 1101 m, 25.VII.2013, ♀.
Previous records: Adana, Ankara, Bursa, Çankırı, Diyarbakır, Hatay, İstanbul, İzmir, Kahramanmaraş, Kocaeli, Nevşehir (Linnavuori, 1965; Kıyak et al., 2004; Önder et al., 2006; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015).

Family RHOPALIDAE Amyot & Serville, 1843
Subfamily: Rhopalinae Amyot & Serville, 1843
Tribe: Rhopolini Amyot & Serville, 1843

Genus: *Corizus* Fallén, 1814
***Corizus hyoscyami hyoscyami* (Linnaeus, 1758)**
Cimex hyoscyami Linnaeus, 1758; *Therapha hyosciami* var. *flavicans* Puton, 1881;

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Therapha hyosciami var. *usticensis* Riggio, 1885; *Therapha* [*hyoscyami*] var. *flavescens* Rey, 1888; *Consivius collinus* Distant, 1909; *Corizus monticola* Horváth, 1917; *Therapha atropyga* Blöte, 1934.

Material examined: Çankırı Prov.: Korgun, Yukarıçavuş village 40˚42'22″N, 33˚38'59″E, 940 m, 21.IV.2013, ♂; Korgun, Akçavakıf, 40˚41'40″N, 33˚33'37″E, 826 m, 22.IV.2013, ♂; Ilgaz, Yaylaören village distinction, 40˚52'42″N, 33˚30'31″E, 914 m, 22.IV.2013, 2 ♂♂; Ilgaz, Kayı village exit, 40˚53'44″N, 33˚28'33″E, 1182 m, 22.IV.2013, ♂; Şabanözü, 3. km between Şabanözü-Eldivan road, 40˚28'48″N, 33˚18'37″E, 1141 m, 24.IV.2013, ♂; Yapraklı, Söğütlü village, 40˚40′38″N, 33˚57′41″E, 1376 m, 24.VII.2013, ♀; Ilgaz, Alpagut village exit, 40˚55′06″N, 33˚32′27″E, 1170 m, 26.VII.2013, ♀; Bayramören, Karakışla village on the road, 40˚57′01″N, 33˚09′27″E, 916 m, 27.VII.2013, ♀; Atkaracalar, Höyük village, 40˚48′28″N, 33˚3′47″E, 1239 m, 27.VII.2013, ♀, ♂; Atkaracalar, between Budakpınarı -Yakalı village, 40˚53′26″N, 33˚8′58″E, 1314 m, 25.VIII.2013, ♀; Çerkeş, between Çerkeş, Cedime, Çalcıören, Coroğlu villages turnout and Kabak village, 40˚53′19″N, 32˚54′47″E, 1557 m, 27.VIII.2013, ♀; Çerkeş, between Kısaç and Bozcaarmut villages, 40˚41′35″N, 32˚50′27″E, 1600 m, 29.VIII.2013, ♀; Çerkeş, between Bıldırcın and Bozcaarmut villages, 40˚39′11″N, 32˚51′59″E, 1804 m, 29.08.2013, ♂.

Previous records: Adapazarı, Amasya, Antalya, Ardahan, Artvin, Aydın, Balıkesir, Bayburt, Burdur, Çankırı, Çorum, Diyarbakır, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Gümüşhane, Hayat, Iğdır, İstanbul, Kars, Kastamonu, Konya, Mardin, Mersin, Muş, Niğde, Sivas, Trabzon, Tokat, Tunceli (Dursun, 2009; Yıldırım et al., 2011, 2013a; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Çerçi et al., 2018; Zengin & Dursun, 2019; Akman & Dursun, 2021; Çerçi & Özgen, 2021).

Genus: *Liorhyssus* stål, 1870

***Liorhyssus hyalinus* (Fabricius, 1794)**

Lygaeus hyalinus Fabricius, 1794; *Corizus gracilis* Herrich-Schaeffer, 1835; *Corizus capensis* Germar, 1838; *Corizus truncatus* Rambur, 1839; *Corizus rubescens* Kolenati, 1845; *Merocoris maculiventris* Spinola, 1852; *Merocoris microtomus* Spinola, 1852; *Rhopalus ruber* Dallas, 1852; *Rhopalus bengalensis* Dallas, 1852; *Corizus sanguineus* A. Costa, 1853; *Corizus dilatipennis* Signoret, 1859; *Corizus variegatus* Signoret, 1859; *Corizus quadrilineatus* Signoret, 1859; *Corizus siculus* Signoret, 1859; *Corizus lugens* Signoret, 1859; *Rhopalus lugens* Stål, 1860; *Rhopalus victoris* Mulsant & Rey, 1870; *Corizus marginatus* Jakovlev, 1871; *Corizus hyalinus* var. *nigrinus* Puton, 1881; *Corizus hyalinus* var. *spathula* Rey, 1887; *Liorhyssus hyalinus* var. *rubricatus* Reuter, 1900; *Liorhyssus natalensis* var. *corallinus* Horváth, 1911; *Corizus scotti* Distant, 1913; *Corizus imperialis* Distant, 1918; *Corizus pronotalis* Distant, 1918; *Liorhyssus hyalinus* var. *pallidus* Mancini, 1935.

Material examined: Çankırı Prov.: Bayramören, Karakışla village on the road, 40˚57′01″N, 33˚09′27″E, 916 m, 27.VII.2013. ♀; Çerkeş, between Yıprak-Seedlar villages, 40˚55′1″N, 32˚48′34″E, 1153 m, 26.VIII.2013, ♂; Bayramören, between Pirinçli and Sazak villages, 40˚58′20″N, 33˚4′47″E, 1630 m, 27.VIII.2013, ♂; Çerkeş, Yeşilören village 40˚47′32″N, 32˚35′12″E, 1597 m, 28.VIII.2013, ♀; Çerkeş, between Dere and Suluk plateau, 40˚42′44″N, 32˚52′56″E, 1422 m, 29.VIII.2013, ♂.

Previous records: Adana, Adıyaman, Amasya, Ankara, Antalya, Artvin, Batman, Bursa, Çankırı, Çorum, Denizli, Diyarbakır, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Hatay, Iğdır, Isparta, İstanbul, İzmir, Kars, Kastamonu, Konya, Mardin, Nevşehir, Ordu, Samsun, Siirt, Sivas, Şanlıurfa Tokat, Tunceli (Linnavuori, 1965; Kıyak et al., 2004; Dursun, 2009; Yıldırım et al., 2011, 2013a; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Çerçi et al., 2018; Zengin & Dursun, 2019; Bolu, 2020; Akman & Dursun, 2021; Bulak & Yıldırım, 2021; Çerçi & Özgen, 2021).

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Genus: *Maccevethus* Dallas, 1852
***Maccevethus corsicus corsicus* Signoret, 1862**
Maccevethus corsicus Signoret, 1862; *Maccevethus lutheri* Wagner, 1953.
Material examined: Çankırı Prov.: Eldivan, Eldivan entrance, 40˚32'25″N, 33˚30'18″E, 922 m, 23.IV.2013, ♀.
Previous records: Amasya, Çanakkale, Çorum, Erzurum, Giresun, Sivas, Tokat (Dursun, 2009; Yıldırım et al., 2013a; Zengin & Dursun, 2019; Akman & Dursun, 2021).

Tribe: Chorosomatini Fieber, 1860
Genus: *Myrmus* Hahn, 1832
***Myrmus miriformis miriformis* (Fallén, 1807)**
Coreus miriformis Fallén, 1807; *Lygaeus micropterus* Burrell, 1807; *Myrmus miriformis* (var.) *sublinearis* Rey, 1887; *Myrmus formosus* Jakovlev, 1904; *Myrmus parallelus* Jakovlev, 1905; *Myrmus miriformis f. gynaecoides* Priesner, 1926.
Material examined: Çankırı Prov.: Korgun, between Karatekin and Yolkaya village, 40˚41'30″N, 33˚29'20″E, 957 m, 22.IV.2013, ♂.
Previous records: Ağrı, Kastamonu (Önder et al., 2006; Dursun & Fent, 2015).

Genus: *Rhopalus* Schilling, 1827
Subgenus: *Aeschynteles* stål, 1872
***Rhopalus (Aeschyntelus) maculatus* (Fieber, 1837)**
Corizus maculatus Fieber, 1837; *Coreus crassicornis* Latreille, 1804; *Coreus clavicornis* Boitard, 1828; *Corizus maculatus* Herrich-Schaeffer, 1840; *Rhopalus chinensis* Dallas, 1852; *Corizus ledi* Boheman, 1852; *Corizus meridionalis* Jakovlev, 1869; *Rhopalus maculatus decolor* Wagner, 1962.
Material examined: Çankırı Prov.: Ilgaz, Aşağı bozan entry, 40˚54′34″N, 33˚36′16″E, 867 m, 26.VII.2013, ♀; Ilgaz, Eskikıymık village entry, 41˚0′19″N, 33˚41′15″E, 1230 m, 26.VII.2013, ♂; Bayramören, Karakışla village on the road, 40˚57′01″N, 33˚09′27 E, 916 m, 27.VII.2013, ♀, 2 ♂♂; Çerkeş, Kuzuören village, 40˚53′35″N, 32˚52′32″E, 1304 m, 25.VIII.2013, 3 ♀♀, 3 ♂♂.
Previous records: Adana, Adıyaman, Artvin, Bursa, Diyarbakır, Elazığ, Erzincan, Erzurum, Gaziantep, Gümüşhane, İstanbul, Kastamonu, Siirt, Sivas, Tokat (Önder et al., 2006; Dursun, 2009; Yıldırım et al., 2011, 2013a; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Çerçi et al., 2018; Bolu, 2020).

Subgenus: *Rhopalus* Schilling, 1827
***Rhopalus* (*Rhopalus*) *parumpunctatus* Schilling, 1829**
Rhopalus parumpunctatus Schilling, 1829; *Corizus pratensis* Fallén, 1829; *Corizus parumpunctatus* var. *subspeciosa* Schumacher, 1914; *Corizus parumpunctatus f. extrema* Priesner, 1926; *Rhopalus parumpunctatus f. singeri* Wagner, 1939.
Material examined: Çankırı Prov.: Yapraklı, Söğütlü village, 40˚40′38″N, 33˚57′41″E, 1376 m, 24.VII.2013, ♂; Ilgaz, Yuvasaray village entry, 40˚52′26″N, 33˚44′36″E, 902 m, 25.VII.2013, ♂; Çankırı, Atkaracalar, Höyük village, 40˚48′28″N, 33˚3′47″E, 1239 m, 27.VII.2013, ♀, ♂; Çerkeş, Kuzuören village, 40˚53′35″N, 32˚52′32″E, 1304 m, 25.VIII.2013, ♂; Çerkeş, Forest area ahead of Bıldırcın Plateau, 40˚39′10″N, 32˚52′4″E, 1800 m., 29.VIII.2013, ♀, ♂; Çerkeş, between the Dere and Suluk plateaus, 40˚42′44″N, 32˚52′56″E, 1422 m, 29.VIII.2013, ♀, 2 ♂♂.
Previous records: Adana, Adıyaman, Amasya, Balıkesir, Batman, Çankırı, Çorum, Diyarbakır, Elazığ, Erzurum, Gazintep, Giresun, Kastamonu, Kayseri, Mardin, Nevşehir, Siirt, Sivas, Şanlıurfa, Tokat (Linnavuori, 1965; Lodos et al., 1984; Kıyak et al., 2004; Dursun, 2009; Fent & Japoshvili, 2012; Yıldırım et al., 2013a; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Çerçi et al., 2018; Zengin & Dursun,

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2019; Bolu, 2020; Akman & Dursun, 2021; Çerçi & Özgen, 2021; Kıyak & Baş, 2021).

***Rhopalus (Rhopalus) rufus* Schilling, 1829**
Rhopalus rufus Schilling, 1829.
Material examined: Çankırı Prov.: Ilgaz, Belören, 40˚52′11″N, 33˚29′39″E, 1543 m, 25.VII.2013, ♀.
Previous records: Adana, Antalya, Çanakkale, Erzurum, Hatay, İstanbul, Kastamonu, Konya, Nevşehir (Kıyak et al., 2004; Önder et al., 2006; Yıldırım et al., 2011; Küçükbasmacı & Kıyak, 2015;).
***Rhopalus (Rhopalus) subrufus* (Gmelin, 1790)**
Cimex subrufus Gmelin, 1790; *Cimex glutinosae* Schrank, 1785; *Lygaeus capitatus* Fabricius, 1794; *Lygaeus magnicornis* Fabricius, 1794; *Rhopalus mavromaustakisi* Wagner, 1967.
Material examined: Çankırı Prov.: Ilgaz, Yuvasaray village exit 4. km from Yukarioz, 40˚ 52′8″N, 33˚46′27″E, 1101 m, 25.VII.2013, ♀; Çerkeş, between the villages of Kısaç and Bozcaarmut, 40˚41′35″N, 32˚50′27″E, 1600 m, 29.VIII.2013, ♂.
Previous records: Artvin, Çorum, Elazığ, Erzincan, Erzurum, Hatay, İstanbul, Kayseri, Mardin, Sivas, Tokat (Linnavuori, 1965; Dursun, 2009; Yıldırım et al., 2011, 2013a; Matocq et al., 2014; Akman & Dursun, 2021; Kıyak & Baş, 2021).

Genus: *Stictopleurus* stål, 1872
***Stictopleurus abutilon* (Rossi, 1790)**
Cimex abutilon Rossi, 1790; *Corizus substriatus* Burmeister, 1835; *Rhopalus abutilon* var. *flavescens* Fieber, 1861; *Rhopalus* (*Rhopalus*) *signoreti* Mulsant & Rey, 1870.
Material examined: Çankırı Prov.: Ilgaz, Ilgaz exit-Gırcen, 40˚54'55″N, 33˚37'41″E, 887 m, 22.IV.2013, ♀; Ilgaz, Yaylaören village distinction, 40˚52'42″N, 33˚30'31″E, 914 m, 22.IV.2013, ♀; Eldivan, Eldivan entry, 40˚32'25″N, 33˚30'18″E, 922 m, 23.IV.2013, ♂; Ilgaz, Eskikıymık village entry, 41˚0′19″N, 33˚41′15″E, 1230 m, 26.VII.2013, ♂; Atkaracalar, between Budakpınarı village- Yakalı village, 40˚53′26″N, 33˚8′58″E, 1314 m, 25.VIII.2013, ♀, ♂.
Previous records: Amasya, Çorum, Diyarbakır, Elazığ, Erzincan, Erzurum, Hatay, Iğdır, Mardin, Tokat (Linnavuori, 1965; Dursun, 2009; Yıldırım et al., 2013a; Matocq et al., 2014; Çerçi et al., 2018; Zengin & Dursun, 2019; Bolu 2020; Akman & Dursun, 2021; Bulak & Yıldırım, 2021).

***Stictopleurus crassicornis* (Linnaeus, 1758)**
Cimex crassicornis Linnaeus, 1758; *Cimex alatus* O.F. Müller, 1776; *Coreus cellulatus* Brullé, 1832; *Rhopalus crassicornis* var. *griseus* Fieber, 1861; *Rhopalus crassicornis* var. *maculatus* Fieber, 1861; *Corizus crassicornis* var. *pictus* Horváth, 1878; *Corizus abutilon* var. *umbrinus* Rey, 1887; *Corizus crassicornis* var. *anticus* Rey, 1888; *Corizus crassicornis* var. *maculicollis* Rey, 1888; *Stictopleurus mixtus* Ribaut, 1921; *Stictopleurus crassicornis f. immaculata* Tamanini, 1951; *Stictopleurus crassicornis f. virgata* Stichel, 1960.
Material examined: Çankırı Prov.: Between Çerkeş, Cedime, Çalcıören, Coroğlu villages turnout and Kabak village, 40˚53′19″N, 32˚54′47″E, 1557 m, 27.VIII.2013, ♀.
Previous records: Ankara, Bursa, Çankırı, Diyarbakır, Gümüşhane, Kars, Kastamonu, Kayseri, Konya, Tokat (Lodos et al., 1984; Önder et al., 2006; Dursun, 2009; Küçükbasmacı & Kıyak, 2015; Bolu, 2020).

***Stictopleurus punctatonervosus* (Goeze, 1778)**
Cimex punctatonervosus Goeze, 1778; *Cimex sabulosus* Geoffroy in Fourcroy, 1785; *Cimex subfuscus* Gmelin, 1790; *Stictopleurus viridescens* Lindberg, 1934; *Stictopleurus*

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punctatonervosus f. virescens Tamanini, 1951; *Stictopleurus lauterbachi* Rieger, 1971.
Material examined: Çankırı Prov.: Kalecik-Çankırı provincial border D-765 Highway, 40˚21′28″N, 33˚31′0″E, 701 m, 21.IV.2013, ♀; Eldivan, Eldivan entry, 40˚32'25″N, 33˚30′18″E, 922 m, 23.IV.2013, ♀; Çerkeş, Dağçukurören village, 40˚44′32″N, 32˚50′17″E, 1271 m, 29.VIII.2013, ♀; Çerkeş, between Yakuplar and Örenköy, 40˚44′44″N, 32˚52′25″E, 1301 m, 29.VIII.2013, ♂; Merkez, Aşağıçavuş village, 40˚41′39,7″N, 33˚38′01,7″E, 880 m, 15.VII.2014, ♂.
Previous records: Antalya, Ardahan, Artvin, Aydın, Bayburt, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Gümüşhane, Iğdır, İstanbul, İzmir, Kars, Kocaeli, Manisa, Ordu, Samsun, Sivas, Tekirdağ, Tokat, Tunceli, Yozgat (Önder et al., 2006; Dursun, 2009; Yıldırım et al., 2011, 2013a).

Family: SCUTELLERIDAE Leach,1815
Subfamily: Eurygastrinae Amyot & Serville, 1843
Tribe: Eurygastrini Amyot & Serville, 1843

Genus: *Eurygaster* Laporte, 1833
***Eurygaster austriaca* (Schrank, 1776)**
Cimex austriacus Schrank, 1776; *Cimex frischii* Goeze, 1778; *Cimex schrankii* Goeze, 1778; *Cimex fuscocucullatus* Goeze, 1778; *Cimex nigrocucullatus* Goeze, 1778; *Cimex aethiops* Goeze, 1778; *Cimex truncatus* Goeze, 1778; *Cimex secalinus* Geoffroy in Fourcroy, 1785; *Cimex cappatus* Geoffroy in Fourcroy, 1785; *Cimex fuscus* Gmelin, 1790; *Cimex cucullatus* Gmelin, 1790; *Cimex carinatus* Cyrillus, 1791; *Tetyra nigra* Fabricius, 1803; *Eurygaster hottentotus* var. *communis* Fieber, 1861; *Eurygaster hottentotus* var. *lineata* Fieber, 1861; *Eurygaster hottentotus* var. *nigricans* Fieber, 1861; *Eurygaster hottentotus* var. *signata* Fieber, 1861; *Eurygaster ligneus* Vollenhoven, 1863; *Eurygaster hottentota* var. *picta* Antessanty, 1891; *Eurygaster nigrocucullata* var. *eurhemia* Kirkaldy, 1909; *Eurygaster nigrocucullata* var. *fuscescens* Kirkaldy, 1909; *Eurygaster nigrocucullatus* ab. *rufa* Péneau, 1911; *Eurygaster nigrocucullatus* var. *vittata* Péneau, 1911; *Eurygaster austriaca seabrai* CH, 1938; *Eurygaster austriacus* f. *marginata* Kupka, 1944; *Eurygaster austriaca* var. *calligera* Wagner, 1951; *Eurygaster austriaca* var. *extensa* Wagner, 1951; *Eurygaster austriaca* var. *ornata* Wagner, 1951; *Eurygaster austriaca* var. *purpurascens* Wagner, 1951v; *Eurygaster austriaca* ab. *ochroleuca* Halászfy, 1959; *Eurygaster austriaca austriaca* f. *simulata* Stichel, 1960; *Eurygaster austriacus* var. *seminigra* Lodos, 1960; *Eurygaster austriaca seabrai* f. *rubra* Fuente, 1974; *Eurygaster austriaca seabrai* f. *pseudomarginata* Fuente, 1974.
Material examined: Çankırı Prov.: Korgun, Yolkaya village, 40˚40'41″N, 33˚27'33″E, 995 m, 22.IV.2013, ♀.
Previous records: Adana, Adıyaman, Ankara, Antalya, Balıkesir, Bilecik, Çanakkale, Çankırı, Edirne, Erzincan, Erzurum, Eskişehir, Iğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kırıkkale, Kırklareli, Konya, Mersin, Muş, Tekirdağ, Trabzon, Tunceli (Önder et al., 2006; Fent & Aktaç, 2009; Fent & Japoshvili, 2012; Yıldırım et al., 2014a; Küçükbasmacı & Kıyak, 2015).

***Eurygaster dilaticollis* Dohrn, 1860**
Eurygaster dilaticollis Dohrn, 1860; *Eurygaster brevicollis* Fieber, 1861; *Eurygaster schreiberi* Montandon, 1885; *Eurygaster schreiberi* var. *flavescens* Horváth, 1911; *Eurygaster maura* f. *improvisa* Wagner, 1940; *Eurygaster schreiberi* var. *bimaculata* Wagner, 1951; *Eurygaster schreiberi* var. *discreta* Wagner, 1951; *Eurygaster schreiberi* var. *marginella* Wagner, 1951; *Eurygaster schreiberi* var. *nigrofusca* Wagner, 1951; *Eurygaster schreiberi* var. *rufobrunnea* Wagner, 1951; *Eurygaster schreiberi* var. *saulii* Wagner, 1951; *Eurygaster dilaticollis* var. *decorata* Wagner, 1951; *Eurygaster*

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dilaticollis var. *expansa* Wagner, 1951; *Eurygaster dilaticollis* var. *straminea* Wagner, 1951; *Eurygaster dilaticollis* ab. *umbrina* Halászfy, 1959; *Eurygaster schreiberi* ab. *erubescens* Halászfy, 1959.
Material examined: Çankırı Prov.: Bayramören, Sazak- Karaoluk villages junction, 40˚57′54″N, 33˚4′1″E, 1578 m, 27.VIII.2013, ♂.
Previous records: Ağrı, Ankara, Ardahan, Artvin, Balıkesir, Erzincan, Erzurum, Kars, Konya (Kiritshenko 1918; Önder et al., 2006; Fent & Japoshvili, 2012; Yıldırım et al., 2014a).

***Eurygaster maura* (Linnaeus, 1758)**
Cimex maurus Linnaeus, 1758; *Cimex cinereus* Goeze, 1778; *Tetyra picta* Fabricius, 1803; *Eurygaster maura* var. *communis* Fieber, 1861; *Eurygaster minor* Montandon, 1885; *Eurygaster maura* f. *meridionalis* Péneau, 1911; *Eurygaster maura* ab. *rufopicta* Péneau, 1911; *Eurygaster maurus* f. *personatus* Stichel, 1924; *Eurygaster meridionalis* var. *nigricans* Mancini, 1931; *Eurygaster meridionalis* var. *maculata* Mancini, 1931; *Eurygaster maurus* f. *aequalis* Wagner, 1938; *Eurygaster maurus* f. *granulosus* Wagner, 1938; *Eurygaster maurus* f. *pallidus* Wagner, 1938; *Eurygaster maurus* var. *rutilus* Wagner, 1938; *Eurygaster maura* var. *punctata* Wagner, 1951; *Eurygaster maura* ab. *pallens* Halászfy, 1959; *Eurygaster maura* ab. *melanaria* Halászfy, 1959; *Eurygaster maura* ab. *rubida* Halászfy, 1959; *Eurygaster maura* ab. *umbrosa* Halászfy, 1959; *Eurygaster maura* f. *subnigra* Stichel, 1960.
Material examined: Çankırı Prov.: Şabanözü, 3. km between Şabanözü-Eldivan road, 40˚28'48″N, 33˚18'37″E, 1141 m, 24.IV.2013, ♂; Atkaracalar, Höyük village, 40˚48′28″N, 33˚3′47″E, 1239 m, 27.VII.2013, ♀.
Previous records: Adana, Adıyaman, Aksaray, Ankara, Antalya, Ardahan, Artvin, Balıkesir, Bayburt, Bilecik, Çanakkale, Çankırı, Denizli, Edirne, Elazığ, Erzincan, Erzurum, Iğdır, Isparta, İstanbul, Karaman, Kars, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Konya, Malatya, Nevşehir, Tekirdağ (Kıyak et al., 2004; Fent & Aktaç 2009; Fent & Japoshvili, 2012; Matocq et al., 2014; Yıldırım et al., 2014a; Küçükbasmacı & Kıyak, 2015).

***Eurygaster testudinaria* (Geoffroy, 1785)**
Cimex testudinarius Geoffroy in Fourcroy, 1785; *Eurygaster maura* var. *notatus* Ferrari, 1874; *Eurygaster sinicus* Walker, 1867; *Eurygaster maura* var. *cinerea* Rey, 1887; *Eurygaster maura* var. *grisescens* Rey, 1888; *Eurygaster maura* var. *rufescens* Oliveira, 1895; *Eurygaster sodalis* Horváth, 1895; *Eurygaster maura* f. *borealis* Péneau, 1911; *Eurygaster sodalis* var. *decorata* Péneau, 1911; *Eurygaster testudinarius* var. *mixta* Cerutti, 1939; *Eurygaster testudinarius* f. *obscuratus* Wagner, 1938; *Eurygaster testudinarius* f. *triguttatus* Wagner, 1938; *Eurygaster testudinarius* f. *tuberculatus* Wagner, 1938; *Eurygaster testudinaria* f. *lurida* Wagner, 1940; *Eurygaster testudinaria* f. *inclusa* Wagner, 1940; *Eurygaster testudinaria KOna* Wagner, 1949; *Eurygaster testudinaria* var. *punctulata* Wagner, 1951; *Eurygaster testudinaria* ab. *flavida* Halászfy, 1959; *Eurygaster testudinaria* ab. *rosea* Halászfy, 1959; *Eurygaster testudinaria* ab. *nigrita* Halászfy, 1959.
Material examined: Çankırı Prov.: Çerkeş, Forest area ahead of Bıldırcın Plateau, 40˚39′10″N, 32˚52′4″E, 1800 m, 29.VIII.2013, ♂.
Previous records: Amasya, Ardahan, Artvin, Bartın, Çankırı, Edirne, Erzurum, İstanbul, Kastamonu, Kırklareli, Tekirdağ, Tokat, Zonguldak (Önder et al., 2006; Fent & Aktaç, 2009; Yıldırım et al., 2014a; Küçükbasmacı & Kıyak, 2015).

Subfamily: Odontoscelinae Amyot & Serville, 1843

Genus: *Odontoscelis* Laporte, 1833

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Odontoscelis (Odontoscelis) byrrhus **Seidenstücker, 1972**
Odontoscelis byrrhus Seidenstücker, 1972.
Material examined: Çankırı Prov.: Korgun, Ildızım Village entrance, 40˚42'31″N, 33˚28'3″E, 1031 m, 23.IV.2013, ♀.
Previous records: Adana, Ankara, Antalya, İzmir, Kahramanmaraş, Kastamonu, Kayseri, Kırıkkale, Mersin, Nevşehir, Niğde (Önder et al., 2006).

Odontoscelis (Odontoscelis) fuliginosa **(Linnaeus, 1761)**
Cimex fuliginosus Linnaeus, 1761; *Tetyra carbonaria* Zetterstedt, 1819; *Arctocoris fuliginosus* [var.] *aethiops* Germar, 1839; *Odontoscelis fuliginosa* var. *caucasica* Kolenati, 1846; *Odontoscelis fuliginosa* var. *pallasii* Kolenati, 1846; *Odontoscelis fuliginosa* var. *iberica* Kolenati, 1846; *Odontoscelis osellai* Rizzotti Vlach, 1982; *Odontoscelis tamaninii* Rizzotti Vlach, 1982.
Material examined: Çankırı Prov.: 2. km from Çankırı exit to Yapraklı, 40˚35′57″N, 33˚37′12″E, 730 m, 23.VII.2013, ♀; Çerkeş, between Akbaş and Aydınlar village, 40˚52′44″N, 32˚49′4″E, 1489 m, 25.VIII.2013, ♀.
Previous records: Afyonkarahisar, Ankara, Aydın, Balıkesir, Bartın, Bursa, Denizli, Edirne, Elazığ, Erzurum, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kırıkkale, Kırşehir, Konya, Zonguldak (Önder et al., 2006; Fent & Aktaç, 2009; Fent & Japoshvili, 2012; Yıldırım et al., 2014a).

Subfamily: Odontotarsinae Mulsant & Rey, 1865
Tribe: Odontotarsini Mulsant & Rey, 1865

Genus: *Odontotarsus* Laporte, 1833
Odontotarsus rufescens **Fieber, 1861**
Odontotarsus grammicus [var.] *rufescens* Fieber, 1861; *Odontotarsus irroratus* Horváth, 1882; *Odontotarsus rufescens* var. *vittiger* Horváth, 1906; *Odontotarsus purpureolineatus* f. *nigropunctata* Hoberlandt, 1944; *Odontotarsus karatasensis* Hoberlandt, 1956.
Material examined: Çankırı Prov.: Çerkeş, on the road between Kadıözü- Aliözü villages, 40˚49′26″N, 32˚57′49″E, 1257 m, 26.VIII.2013, ♀.
Previous records: Adana, Adıyaman, Amasya, Ankara, Antalya, Artvin, Aydın, Bursa, Denizli, Elazığ, Erzurum, Gaziantep, Gümüşhane, Hatay, İstanbul, İzmir, Kahramanmaraş, Kars, Kastamonu, Konya, Manisa, Mardin, Mersin, Muğla, Nevşehir (Önder et al., 2006; Matocq et al., 2014; Yıldırım et al., 2014a; Çerçi & Özgen, 2021).

Family STENOCEPHALIDAE Dallas, 1852

Genus: *Dicranocephalus*, Hahn, 1826
Dicranocephalus albipes **(Fabricius, 1781)**
Reduvius albipes Fabricius, 1781; *Cimex leucopus* Gmelin, 1790; *Dicranomerus neglectus* Herrich-Schaeffer, 1835.
Material examined: Çankırı Prov.: Çerkeş, between Yıprak-Tohumlar villages, 40˚55′1″N, 32˚48′34″E, 1153 m, 26.VIII.2013, ♀; Çerkeş, between Kadılar-Dikenli Plateaus, 40˚47′35″N, 32˚44′35″E, 1449 m, 28.VIII.2013, ♂.
Previous records: Amasya, Artvin, Bayburt, Çankırı, Çorum, Elazığ, Erzincan, Erzurum, Giresun, Gümüşhane, Iğdır, Kars, Kastamonu, Mersin, Muğla, Sivas, Tokat (Linnavuori, 1965; Dursun, 2009; Yıldırım et al., 2011, 2013a; Matocq et al., 2014; Küçükbasmacı & Kıyak, 2015; Zengin & Dursun, 2019; Akman & Dursun, 2021).

Family TINGIDAE Laporte, 1832
Subfamily: Tinginae Laporte, 1832

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Genus: *Copium* Thunberg, 1822
***Copium adumbratum* (Horváth, 1891)**
Eurycera adumbrata Horváth, 1891.
Material examined: Çankırı Prov.: Yapraklı, Yakadere village, 40˚41′25″N, 33˚48′56″E, 1030 m, 24.VII.2013, ♀.
Previous records: Diyarbakır, Elazığ, Erzincan, Erzurum, Gümüşhane, Mardin, Niğde, Sivas, Samsun, Tokat (Lodos et al., 1984; Önder et al., 2006; Maral et al., 2013; Yıldırım et al., 2013b; Dursun & Fent, 2017; Bolu, 2020; Çerçi & Özgen, 2021).
Genus: *Dictyla*, Stål, 1874
***Dictyla echii* (Schrank, 1782)**
Cimex echii Schrank, 1782; *Acanthia echii* Wolff, 1804; *Tingis humuli* (non Fabricius, 1803): Fallén, 1807; *Monanthia* (*Physatocheila*) *wolffii* Fieber, 1844; *Monanthia echii* var. *nigricans* Hoberlandt, 1943; *Monanthia echii* var. *rufina* Seidenstücker, 1954.
Material examined: Çankırı Prov.: Korgun, Yukarıçavuş village, 40˚42'22″N, 33˚38'59″E, 940 m, 21.IV.2013, ♀; Korgun, Ildızım village entry, 40˚42'31″N, 33˚28'3″E, 1031 m, 23.IV.2013, ♀; Eldivan, Maruf village, 40˚38'26″N, 33˚25'59″E, 1196 m, 23.IV.2013, 2 ♀♀, 3 ♂♂; Şabanözü, 3. km between Şabanözü-Eldivan road, 40˚28'48″N, 33˚18'37″E, 1141 m, 24.IV.2013, ♀; Şabanözü, Gümerdiğin, 40˚26'40″N, 33˚17'2″E, 990 m, 24.IV.2013, ♂.
Previous records: Balıkesir, Bayburt, Diyarbakır, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Giresun, Gümüşhane, Hatay, İstanbul, Kastamonu, Kars, Kastamonu, Kayseri, Kırklareli, Mardin, Rize, Tekirdağ, Tokat (Horváth, 1883; Linnavuori, 1965; Fent & Japoshvili, 2012; Maral et al., 2013; Yıldırım et al. 2013b; Matocq et al., 2014; Dursun & Fent, 2017; Bolu, 2020; Yazıcı, 2022).

***Dictyla nassata nassata* (Puton, 1874)**
Monanthia nassata Puton, 1874; *Monanthia convergens* (non Herrich-Schaeffer, 1835): A. Costa, 1847; *Monanthia putoni* Montandon, 1895; *Monanthia putoni* var. *pulla* Horváth, 1905; *Monanthia comes* Drake, 1948; *Dictyla nassata* f. *heissi* Péricart, 1982.
Material examined: Çankırı Prov.: Kurşunlu, Kurşunlu çıkışı 5. km, Devrez Çayı kenarı, 40˚48'53″N, 33˚17'28″E, 1126 m, 23.IV.2013, ♀.
Previous records: Edirne, Erzurum, Giresun, Iğdır (Yıldırım et al., 2013b; Dursun & Fent, 2017).

Genus: *Stephanitis* Stål, 1873
Subgenus: *Stephanitis* Stål, 1873
***Stephanitis (Stephanitis) pyri* (Fabricius, 1775)**
Acanthia appendicius, 1775; *Cimex appendiceus* Geoffroy in Fourcroy, 1785; *Tingis marginata* Lamarck, 1816; *Stephanitis pyri* var. *sareptana* Horváth, 1912.
Material examined: Çankırı Prov.: Çerkeş, Aliözü Village exit (towards the main road), 40˚49′40″N, 32˚56′49″E, 1231 m, 26.VIII.2013, ♂.
Previous records: Adana, Adıyaman, Amasya, Artvin, Bartın, Batman, Diyarbakır, Elazığ, Erzurum, Eskişehir, Gaziantep, Kırklareli, Mardin, Siirt, Şanlıurfa Tekirdağ (Yıldırım et al., 2013b; Aysal & Kıvan, 2018; Maral et al., 2018; Dursun & Fent, 2017; Bolu, 2020).

Genus: *Tingis* Fabricius, 1803
Subgenus: *Neolasiotropis* Wagner, 1961
***Tingis (Neolasiotropis) pilosa* Hummel, 1825**
Tingis pilosa Hummel, 1825; *Monanthia angusticollis* Herrich-Schaeffer, 1836; *Tingis*

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(*Tropidocheila*) *kirinana* Drake, 1948.
Material examined: Çankırı Prov.: Eldivan, Maruf villge, 40˚38'26″N, 33˚25'59″E, 1196 m, 23.IV.2013, ♂; Çerkeş, between Yakuplar and Örenköy, 40˚44′44″N, 32˚52′25″E, 1301 m, 29.VIII.2013, ♂.
Previous records: Konya (Önder et al., 2006).

Subgenus: *Tingis* Fabricius 1803
***Tingis (Tingis) auriculata* (A. Costa, 1847)**
Catoplatus auriculatus A. Costa, 1847; *Monanthia* (*Phyllontocheila*) *sinuata* Fieber, 1844; *Monanthia unicolor* Garbiglietti, 1869; *Tingis auriculata* var. *dauci* Horváth, 1905; *Monanthia necopina* Drake, 1919.
Material examined: Çankırı Prov.: Korgun, between Karatekin and Yolkaya village 40˚41'30″N, 33˚29'20″E, 957 m, 22.IV.2013, ♂; Korgun, Ildızım Village entrance, 40˚42'31″N, 33˚28'3″E, 1031 m, 23.IV.2013, ♀; Eldivan, Maruf village, 40˚38'26″N, 33˚25'59″E, 1196 m, 23.IV.2013, 3 ♀♀, 5 ♂♂.
Previous records: Ankara, Artvin, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Giresun, Hatay, Iğdır, Kastamonu, Kırklareli, Sivas, Tokat (Seidenstücker, 1954; Hoberlandt, 1955; Péricart, 1983; Lodos et al., 1984; Maral et al., 2013; Yıldırım et al., 2013b; Matocq et al., 2014; Dursun & Fent, 2017; Bolu, 2020; Yazıcı, 2022).

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Research Article

A rare species from Türkiye collected by light traps: *Polymerus palustris* (Reuter, 1907) (Heteroptera: Miridae)

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ABSTRACT: : In this study, which was carried out with a light trap in the Sivrihisar district of Eskişehir in September 2022, the collected Heteroptera samples were evaluated and *Polmerus palustris* **(**Reuter, 1907) belonging to the Miridae family was identified. *Polymerus palustris* (Reuter, 1907), which was known from only two localities before, is a rare species for the fauna of Türkiye.

KEYWORDS: *Polymerus palustris,* Miridae, Heteroptera, rare species, Türkiye.

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INTRODUCTION

Light is attractive to some Heteroptera species. In Türkiye, there are a few studies on Heteroptera obtained by using light traps (Hoberlandt, 1961; Önder & Adıgüzel 1979; Önder et al., 1981; Önder et al. 1984; Yıldırım et al.,1999; Tezcan et al., 2010; Özgen, Örgel, Tan, 2021)

The genus *Polymerus* has 19 species in two subgenus (*Poeciloscytus* Fieber, 1858, 14 species and *Polymerus* Hahn, 1831, 4 species) in the Palaearctic Region. In Türkiye, there are 7 species (*Polymerus asperulae* (Fieber, 1861),

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Polymerus brevicornís Reuter, 1879, *Polymerus cognatus* (Fieber, 1858), *Polymerus palustris* (Reuter, 1907), *Polymerus unifasciatus* (Fabricius, 1794), *Polymerus vulneratus* (Panzer, 1806), *Polymerus holosericeus* Hahn, 1831) belonging to two subgenus (Aukema, 2020).

Polymerus palustris has been detected in two localities in Türkiye so far, one in the Thrace Region (Edirne) and the other in Anatolia (Adana).

The record in this study from Eskişehir contributed to the distribution information of the species.

MATERIALS AND METHODS

The samples were collected in Sivrihisar town of Eskişehir province with light trap in September 2022 (Figure 1). An UV lamp used approximately 1 m above the ground in the light trap (Figure 2) and the collection was made by tweezers. Collected Heteroptera samples were killed and preserved in ethyl acetate jars. Habitat characteristics of the study area are as follows; steppe plants with marly soil character are dominant.

The collection date and sample numbers of the species obtained in this study are given in the text.

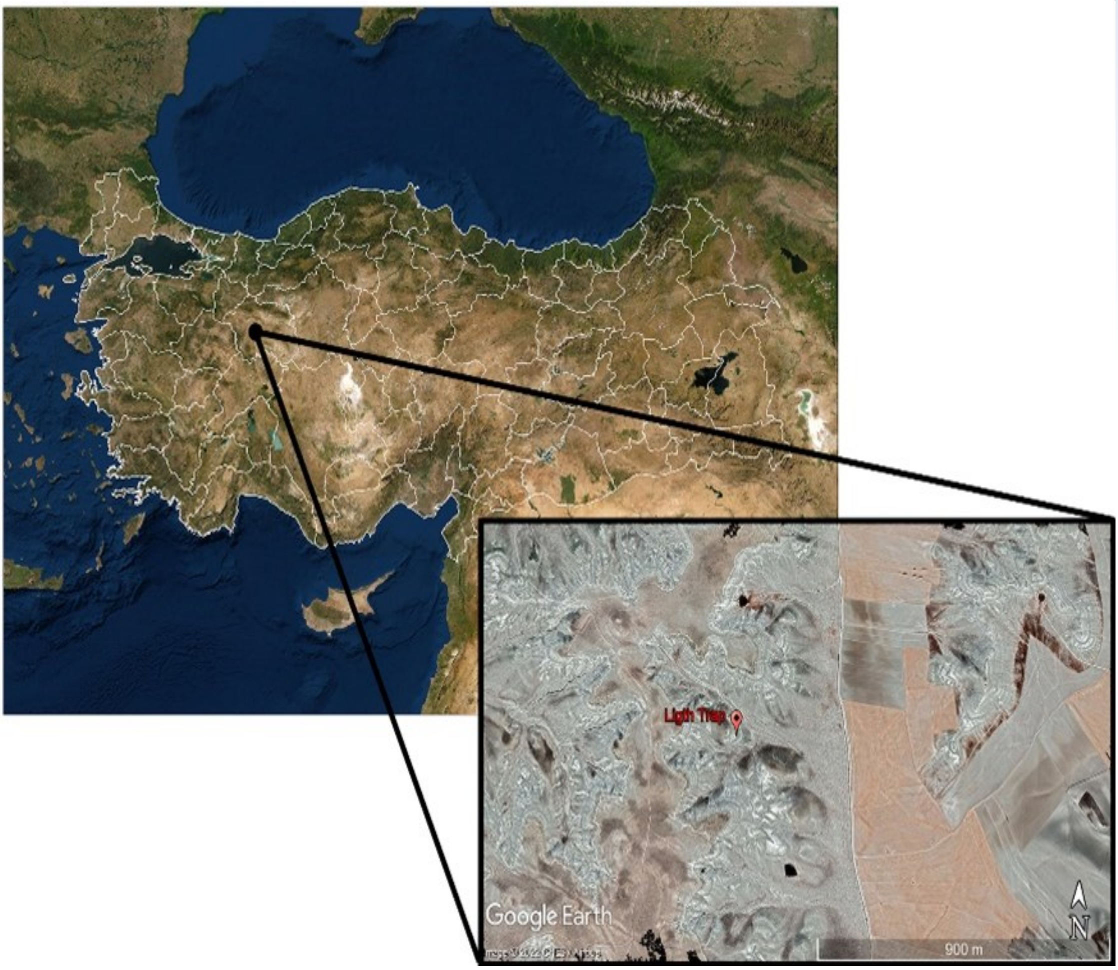


Figure 1. Map of Türkiye. Light trap setup point.

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Figure 2. In this study, the place where the light trap is set up

RESULT

Family MIRIDAE Hahn, 1833

Subfamily MIRINAE Hahn, 1833

Genus *Polymerus* Hahn, 1831

Subgenus *Poeciloscytus* Fieber, 1858

***Polymerus palustris* (Reuter, 1907) (Fig.3)**

Material examined: (Figs. 1,2) Sivrihisar -Eskişehir, 932 m., 39°21'15.10"N 31° 29'50.51"E, 15.9.2022, 18 ♂♂, 8 ♀♀ (attracted to light), leg. D.E. Ersoy

Distribution on the Türkiye:

Adana (Önder et al., 2006), Edirne (Önder et al., 1984) and Sivrihisar-Eskişehir province (in this study).

General distribution:

Europe: Austria, Belgium, Bulgaria, Byelorussia, Czech, Republic, Denmark, Estonia, Türkiye, Finland, France, Great Britain, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Netherlands, Poland, Romania, Russia (NT ST), Slovakia, Slovenia, Sweden, Switzerland, Ukraine.

Asia: China (NE), Japan, Korea, Russia (ES, FE, WS) (Aukema &Rieger, 1999); Euro-Siberian, Serbia, (Protić, 2020).

Habitat and host plants:

According to the literature, in humid places on *Galium* spp., often in swamps and forests. Imagines from June to September. Overwinters as an egg (Wagner,1970/71); the host of the specimens of this species are *Galium* sp., *Galium palustre* and scrub and meadow. (Horváth, 1897; Göllner-Scheiding, 1978; Josifov, 1986, 1999; Gogala & Gogala 1989; Protić, 1998; Önder et al., 2006)

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Figure 3. *Polymerus palustris* (Rt.,1907) habitus (♂)



Figure 4. Collected locality and habitat of *Polymerus palustris.*

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DISCUSSION

In the Sivrihisar, many specimens were attracted to the light. In the second half of September, 18 ♂♂, 8 ♀♀ specimens of the species discussed in this study were found in *Galium* sp. collected in marl habitat (Figure 4).

In Türkiye, this species has been recorded from Adana and Edirne province so far (Önder et al., 1984, 2006), it is recorded for the third time with this study, therefore it is considered as a rare species for Heteroptera fauna of Türkiye. The record of Polymerus palustris in Edirne is also based on specimens caught in light traps (Önder et al., 1984). The fact that it was caught with a light trap in this study indicates that the species is prone to light.

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AUTHOR GUIDELINES
Aims & Scope

The *Journal of the Heteroptera of Turkey* is a biannual peer reviewed international journal that publishes original articles, review articles, and short communication on all aspects of Heteroptera.

The *Journal of the Heteroptera of Turkey* publishes qualified research articles on the systematics, taxonomy, faunistical and ecology of heteroptera suborder. The topic of the research may include a wide range of heteropteran fields. Detailed studies on systematics, morphology, ecology, and phenology of heteroptera, and the biological, ecological, and faunistic formation of heteroptera taxons.

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Text: Introduction, Materials and Methods, Results, Conclusion and Discussion, Acknowledgments, References, Figure and table legends.

Use italics for Scientific names of genera, species, and subspecific taxa.
Do not use italics for abbreviations such as “spp.”, “sp.”, “ssp.”, ”var.”, ”gen.nov.”, “sp.n.”, “ssp.nov.”, “stat.n.”, “comb.n.”, “s.l.”, “s. str.”, “et al.”, and names of taxa of rank higher than genus.
For faunistic research follow this order: Taxon name, Material examined, Habitat, Host plant(s), Distribution. Example:
Miridae Hahn, 1831
Deraeocoris rutilus (Herrich-Schaeffer, 1838)
Habitat: The specimens belonging to *D. rutilus* (H.,-S., 1838) were found on *Carduus pycnocephalus* subsp. *albidus* (Bieb) Kazmi.
Materials examined: 1 male, 24.6.1996 (Loc. 1), 1 female, 24.6.1996 (Loc.6).

Distribution in Turkey: The Aegean, the Marmara, and the Anatolia regions (18,10,8,13,29).
Distribution in the world: Israel, Sardinia, Syria, Cyprus, Poland, the Balkans, Russia, and Turkey (18,25).

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References must be cited in the text as (Dursun, 2013), Fent & Dursun (2005) or Fent et al. (1997), or in a parenthesis (Dursun, 2013; Fent & Dursun, 2005; or Fent et al. ,1997).

Journal article: Abbreviate names of periodicals basically according to the World List of Scientific Periodicals, 4th Edition, Butterworths, London, 1964–1965. (If you are not certain about the correct abbreviation, give the journal's name in full).

Fent, M., Kment, P., Elipek-Çamur, B., Kırgız, T., 2011, Annotated catalogue of Enicocephalomorpha, Dipsocoromorpha, Nepomorpha, Gerromorpha and Leptopodomorpha (Hemiptera: Heteroptera) of Turkey with new records, *Zootaxa*, 2856:1-84.

Books: Alexi Popov, A., Grozeva, S., Simov,N., Tasheva, E., 2013, *Advances in Hemipterology*, PenSoft Publishers Ltd, 377 pp., Sofia, Bulgaria.

Article/Chapter in Book: Kerzhner, I. M., Jaczewski, T. L.,1964, *Order Hemiptera (Heteroptera) 851–1118pp. I*n: *Keys to the insects of the European USSR 1. (Ed. G. Y. Bei-Bienko).* Nauka, Moskva & Leningrad [in Russian; English translation, Israel Program for Scientific Translations, Jerusalem, 1967]. 1214 pp.

No Author Given: (USDA) U.S. Department of Agriculture. 2001. Title. USDA, Beltsville, MD. (IRRI) International Rice Research Institute. 2001. Title. IRRI, City, State or Country.

Proceedings: Šeat, J., Kaur, H., Gallé, R., Torma, A. 2018, The role of road verges as secoundary linear habitats for Forest steppe Heteroptera, *8th European Hemiptera Congress*, 24-29 Jun 2018, Zawiercie, Poland. Book of Abstracts, 61 p.

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Using the DOI (Digital Object Identifier) Number: Nestel D., Papadopoulos N. T. & Miranda Chueca M. A. (2008). Current advances in the study of the ecology of fruit flies from Europe, Africa and the Middle East. *Journal of Applied Entomology*, DOI: 10.1111/j.1439-0418.2008.01378.x

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